THE

RETROSPECT

OF

PRACTICAL MEDICINE AND SURGERY,

BEING A

HALF-YEARLY JOURNAL,

CONTAINING A RETROSPECTIVE VIEW OF EVERY DISCOVERY AND PRACTICAL IMPROVEMENT IN THE MEDICAL SCIENCES.

EDITED BY

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PREFACE TO No. II.

As many may probably read this second number of the RETROSPECT OF MEDICINE AND SURGERY, who will not have the opportunity of seeing the first, it may be as well once more, briefly to state that the object of the work is to bring into one focus all the pithy materials of the numerous Medical Journals now published: omitting that matter, which, however interesting in many respects, is not of real and essential importance to the bed-side practitioner and truly practical man. There are so many Medical Journals published at the present time, and likely to be more, that it becomes absolutely necessary, if the active practitioner means to keep pace with the discoveries and improvements continually being made, that he should possess some such work as this, which will present to him at one view, every few months, and at a comparatively small expense, a summary of the most practical articles to be found scattered in so numerous a list of periodicals. By this means, every practitioner may go on taking in the one or two Journals which he is accustomed to, and may at the same time have a condensed account of all the rest; curtailed indeed considerably, but in fact giving every truly practical remark, and especially every really original observation and new mode of treatment: and those practitioners who do not take in any Medical Journal whatever, will now have the opportunity, in an easy and expeditious way, of making themselves as well acquainted with every necessary improvement, as those who read ever so much. The table will be spread ready for their repast, and the most practical matter will be brought before them ready digested, without the trouble of wading through fourteen or fifteen different Journals and periodicals.

This work will be especially useful to the busy practitioner who has not time to read much, to the country practitioner who has not the opportunity, and to the young practitioner who cannot afford it. At the same time it will not be discouraging those who have the time and opportunity to enter more fully into the periodical Medical literature of the day.

In this number will be found an abridged account or digest of almost every article of value on the *treatment* of disease to be found in the different Medical Journals, from July to December, 1840. The practice of Medicine, Surgery, and Midwifery, has been the chief object in view; Anatomy and Physiology have only been glanced at.

If the editor continues to be encouraged as he has already been, by the sale of the first number, it is his intention to extend the usefulness of

the work, by inviting the authors of all new Medical works to communicate their discoveries or improved methods of practice to him; requesting that they will at the same time refer him to those portions of their writings in particular which they consider to point out some original opinion or new mode of treatment. He will thus be able to lay before the public not only a bird's-eye view of the periodical literature of the profession, but likewise to extend the view to the wider range of Medical literature in general; taking care to keep his prime object in view, viz., the "Treatment of Disease," banishing unfounded theory and opinion, and taking facts as his only guide: and endeavouring to point out to the younger members of the profession especially, those parts of the Medical press which will be most likely to benefit them at the bedside of the patient. This is particularly necessary in these days, when "science," falsely so called, is endeavouring to take the place of sound and useful practice. On this point we cordially agree with M. Trousseau, of Paris, who in a letter to M. Bretonneau, of Tours, writes as follows:

"I early took, at your school, antipathy to all empty speculations which lead to no practical end, and a great contempt for the laborious and sterile lucubrations of those who seek for posthumous fame by the discovery of some new auscultatory rale, or by the microscopic detection of some hitherto unnoticed morbid production. *En revanche*, I have always esteemed in a very particular manner such physicians as are willing to descend from the high region of what now-a-days is called *science*, and who will talk with me of what they have found to be really useful in the treatment of any disease, however simple and seemingly trifling the remedy may be. To tell the truth, I have much greater pleasure in meeting with a man who will teach me the best mode of making a poultice than with him who professes to instruct me in the differences between the *rale ronflant* and the *rale sonore*, or how to distinguish the *rale sibilant* from the *soufflant rale*, or this latter from the *turturin rale*, or this again from the *roucoulant rale*, or the *caverneux* from the *cavernuleux rale*, and all such petty distinctions. You indeed in the provinces are sadly *arrieres*, not recognising, I am told, more than the four or five different *rales* described by Laennec."

The editor has availed himself of the following Journals in the compilation of this second number, viz. the "*Medical Gazette*," the "*Lancet*," the "*Edinburgh Medical and Surgical Journal*," the "*British and Foreign Medical Review*," the *Medico-Chirurgical Review*," the "*Dublin Journal of Medical Science*," the "*New York Journal of Medicine and Surgery*," the "*Dublin Medical Press*," "*Guy's Hospital Reports*," the "*Royal Medico-Botanical Transactions*," the "*American Journal of the Medical Sciences*," the "*Medical Times*," the "*Provincial Medical and Surgical Journal*," and the *Medico-Chirurgical Transactions*."

Park-Square, Leeds,
Dec. 1840.

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PRACTICAL MEDICINE,

&c. &c.

Art. 70.—TREATMENT OF INCIPIENT PHTHISIS.

By H. Marshall Hughes, M.D., Assistant Physician to Guy's Hospital, and Physician to the Surrey Dispensary.

[From the investigations of Laennec, it is acknowledged that "tubercular cavities after collapse and contraction may become effaced by the adhesion of their parietes, or that from their limited extent and inactivity, they may cease to be a source of danger, or even of inconvenience, and therefore, that if tubercles exist not in other parts of the lungs, the cure of advanced phthisis may be spontaneously (though not by medicines,) effected;"—and however the recent work of M. Fournet may deny this, we are disposed to believe it. The great obstacle to the treatment of incipient phthisis has hitherto been the difficulty of knowing exactly when it has commenced: but this has been in a great measure overcome by the advances in auscultation and other physical means of diagnosis; and we are, therefore, bound to listen to any rational plan for the checking of this dreadful disease, which has been acknowledged to carry off one-fifth of the entire population of this country. Dr. Hughes obtained the hints for his treatment of the incipient stages of this malady from Sir James Clarke's admirable treatise on consumption, and Dr. Carswell's views respecting the principal seat of tubercle. Dr. Hughes proceeds to say:]

Tubercular phthisis, I believe to be a constitutional affection, either hereditary or acquired, in which an unorganizable matter is eliminated from the blood in a fluid state, together with the

natural secretions of the parts affected. I suppose that this matter becomes at length solid, by the absorption of its fluid constituents; and either remains upon, or is more or less quickly removed from, the surfaces on which it is deposited, according to the entire want, or to the freedom of communication of those surfaces with the natural outlets of the body;—that its principal seat is the free surface of the mucous and serous membranes;—and that its most frequent locality, when affecting the lungs, though occasionally infiltrated through all the tissues of the organ, is the mucous membrane of the air-cells and smaller bronchial tubes. I moreover believe that this deposit or secretion, though it not unfrequently occurs without any decided or observable increased action of the vessels of the lungs, and is therefore not at first characterized by any marked thoracic symptoms, is, when the predisposition already exists, often induced, and increased by bronchitis, and other inflammatory affections of the tissues, by the vessels of which it is secreted.

That tubercular matter was sometimes secreted upon the free surfaces of mucous membranes, had been previously stated by other pathologists, and particularly by Andral; but it is, I believe, to Dr. Carswell that the profession is indebted for the opinion, supported by numerous and minute dissections, that this is "its especial seat of election."

[Dr. Hughes' treatment seems to consist chiefly in the use of emetics frequently repeated; assisted by counter-irritation, iodine, and tonics: the first however obtains his chief confidence, with respect to which he says]

When, however, I became acquainted with the views of Dr. Carswell upon the principal seat of tubercle, it appeared to me obvious, that, if these views were correct, emetics might be freely administered in the early periods of the complaint, with the very probable hope of expelling at least a portion of the tubercular deposit, of preventing its increase, and therefore with the rational expectation, if not of removing the proximate cause of the disease, of materially retarding its progress.

The emetics employed have been of different kinds, and in various proportions. My object has been, to ensure full vomiting once or twice; but at the same time to avoid, as much as possible, any subsequent straining or exhaustion. With this

view, I commenced with five grains of the sulphate of copper, and five grains of ipecacuanha: but, from the continued retching occasionally produced by this combination, I afterwards ordered either six or eight grains of the sulphate alone, or ten or twelve of the ipecacuanha, according to the strength and susceptibility of the patient. I subsequently tried sulphate of zinc, in doses of ten or twelve grains; and afterwards six grains of ipecacuanha and two of sulphate of copper. The preparations of antimony, in consequence of their tendency to cause exhaustion, and, if not entirely rejected, to induce irritation of the bowels, and diarrhœa, I have not employed; except in those cases in which I had reason to suspect the existence of bronchitis or slight pneumonia. The result of these trials, as to the operation of the respective forms of emetic, has been the assurance, that the medicine which has been the most effective, and at the same time the most lenient, in one person, has not necessarily been so in another. On the whole, from pretty extensive experience of those mentioned, I believe that either the simple sulphate of zinc, or ipecacuanha, in doses of twelve grains, or a combination of six grains of ipecacuanha and two of sulphate of copper, are the most desirable forms and proportions that I have used. Smaller quantities have occasionally failed. Under these circumstances, nausea, but no vomiting, and on one or two occasions diarrhœa, have been induced by the medicine. The emetics have been directed to be taken in a few ounces of warm water, about an hour before breakfast, every morning; or every second, third, or fourth day, according to the strength of the patient and the character of the disease. Their uniform effect, with I believe a solitary exception, has been very materially to relieve, and, in not a few instances, entirely to remove the cough. On several occasions, when they have not been taken every day, patients have been requested to observe whether their cough was better on those days in the morning of which they took the emetic. The answer has generally been decidedly in the affirmative; but it has certainly sometimes been, that though the cough was much lessened, it was not especially so on any particular days.

But the decrease or cessation of the cough has been far from the only benefit derived from the use of emetics. Their effect in relieving dyspnœa, oppression of the chest, and load at the scrobiculus cordis, has been often surprising to the

patient as well as the physician. The appetite has often improved under their use, and the whole system appeared invigorated. Only a few days since, a patient said: "Ever since I began to take the powders, my appetite, which before was bad, has been ravenous." Their effect also upon the expectoration has been very marked, but various. In some cases, when previously profuse, it has been checked, and in others stopped; and while some patients have observed "they have brought up the phlegm more easily," others, whose cough had before been dry, have experienced ease from the excited secretion of the bronchial membrane. It must however be confessed, that some have complained of the continuance of languor and nausea for a considerable part of the day, and of the exhaustion which they have temporarily endured. But even in these cases I have never yet known any permanently injurious consequences result from their frequent employment. I am however far from believing that emetics are desirable remedies in every case of phthisis, and perhaps even of the incipient disease. Some care and discrimination are required in the selection of cases, before deciding upon their administration. As a general rule, it may be observed, that the earlier the stage, and the more chronic the character of the disease, the greater has been the benefit derived from their operation. In many cases of incipient phthisis, they, combined with other means to be afterwards mentioned, have certainly checked, and apparently removed the complaint; and in some examples of old chronic disease, accompanied with evident dulness below one or both clavicles, but without any evidence of cavities or softening tubercles, great and obvious advantage has resulted from their use. In acute or febrile phthisis, they, together with every other remedy I have employed, have appeared to effect little or no good. Where considerable debility and much perspiration have existed, the advantage derived from them has been doubtful; and when hectic has been present, and softening has decidedly commenced, they have not seemed to check the progress of the disease. But though the benefit arising from their continued use in such instances has been questionable, considerable temporary relief has often followed their occasional administration. On the whole, emetics are by far the most effective remedies that I have yet myself employed, or seen others employ, in the early stages of phthisis; and, combined with other

means, appear to me, both from theory and experience, to hold out a probable hope of the cure, or at least the entire suspension of the complaint.

[Speaking of counter-irritation, iodine, and tonics, he says]

Whether there has been tolerably decisive evidence of the presence of tubercles in the lungs, or no physical sign of their actual existence, and merely a fear of their probable deposition —or whether softening has already commenced—I have ordered the liniment, composed of acetic acid and turpentine, recommended by Dr. Stokes, to be freely rubbed upon the chest, night and morning. The effect of the blisters has been, in the particular cases for which they have been ordered, as in ordinary cases of bronchitis unaccompanied with tubercles, almost always beneficial. The liniment—which, for the purpose of extemporaneous prescription in hospital and dispensary practice, has been composed merely of one ounce of strong acetic acid and two ounces of spirit of turpentine shaken together—has been of very great service; not merely by affording great relief to the symptoms, especially by decreasing the dyspnœa, and enabling the patients more freely to expand the chest, but, I believe, in rendering them less susceptible of atmospheric changes and other external impressions. From the almost enthusiastic manner in which some patients have spoken of the great comfort they had derived from its use in bronchitis as well as in the early stages of phthisis, I cannot but think, with Dr. Stokes, that the benefit derived has been in many cases greater than could be explained by its simply counter-irritant effect. The advantage derived from the use of the tartar-emetic ointment, and other counter-irritants, in the chronic examples of the complaint, has been much less decided.

Iodine.—The very obvious effect of this substance and its preparations, in promoting absorption; the evident advantage resulting from their use in enlarged glands and other forms of disease accompanied with the deposit of scrofulous matter; the similarity, if not perfect identity, of scrofulous and tubercular matter; their decided action as alteratives: and the very marked benefit to the general health derived from their exhibition to persons affected with strumous disease; all indicate that iodine and its compounds are medicines worthy of a careful and extensive trial, in the early periods of phthisis. Their effect

upon scrofulous enlargements is seen and acknowledged; visible and tangible morbid deposits are known to disappear under their use: and no valid reasons can, I think, be assigned, why, under equally favourable circumstances, they may not have an equally beneficial operation upon scrofulous deposits in the lungs. It has been given in doses of one-twelfth to one-eighth of a grain, with two or four grains of the iodide of potassium, and half a drachm or a drachm of syrup of poppies, either in simple water, or more commonly in the infusion of calumba. The operation of this medicine is generally slow. I have no hesitation in stating my conviction, that iodine and its preparations are very valuable remedies in the treatment of incipient phthisis.

Tonics.—When the local irritation produced by tubercles has been subdued, or when it has not existed, tonics have been freely administered, with the view and hope of improving the general health of the patient, and of changing that morbid condition of the fluids and solids of the body upon which the secretion of tubercular matter probably depends. They have usually been given in conjunction with iodine: but where this medicine has disagreed, or not acted beneficially, either the oxide of iron, or the tinct. ferri sesquichlor., has been combined with a bitter infusion: or a grain of sulphate of iron, and one or two of the sulphate of quinine, have been prescribed with infusion of roses. Together with these have been ordered as nutritious a diet as the stomach was able to digest, or bear without inconvenience; moderate exercise in the open air; and where they were attainable, the use of horse exercise—a residence in the country, where the air was mild and dry—and a constant exposure to its invigorating influence, which I regard as by far the best tonic remedies for incipient phthisis.

[When Dr. Hughes mentions the preparations of iron, he might with safety have recommended the precipitated carbonate as used by Mr. R. Carmichael, of Dublin, an account of which is given in page 21 of this volume, and also the protoxide as recommended by Mr. Donovan. *(See page 50 of this volume.)*

We ourselves have lately met with great encouragement in the treatment of incipient phthisis as described by Dr. Hughes, by means of the precipitated carbonate, and the free use of common salt as used by M. Latour; and we are persuaded that

these two remedies are destined to form important means of treatment whenever the blood requires to be altered in its composition. Witness the effects of salt, for example, in many cases of typhus as described by Dr. Stevens: what can be more rapid and more extraordinary than the sudden changes which we have witnessed to take place from his saline treatment; and it is possible that the similar effects of the hydriodate of potass in typhus, as described by Dr. Morrison in another part of this number, may be owing to a similar effect on the blood.

Dr. Hughes proceeds to say]

I have not felt justified in prescribing the frequent use of emetics for patients whom I saw only once in the week, or at most only every three or four days, while they were affected with hæmoptysis of either a mild or severe character; but I may observe, that in no single instance have I known their use either to excite or reproduce the hæmorrhage. If, however, when the hæmoptysis has ceased, the general symptoms and the local signs of incipient phthisis have remained behind, then the use of emetics has been commenced, and the same treatment has been adopted as in the other varieties.

[It is in the simple chronic form of incipient phthisis, uncombined with either bronchitis or hœmoptysis, that he finds his treatment chiefly efficacious; and it is in these cases which he excepts, which are accompanied by inflammatory action, that Dr. Stokes, Dr. Graves, and others have found such decided benefit from mercury.

Dr. Hughes describes the symptoms and treatment of his simple chronic form as follows,—]

The sound, on percussion, is, in some cases, not at all, and in others scarcely perceptibly changed: and if upon accurate comparison between the two sides, or between them and the other regions of the chest, any difference is discovered, it is often found to consist, not so much in a diminution of the loudness, as in an alteration of the character or the quality of the sound elicited. The inspiration is accompanied with a hoarse, rough, and dry sound; the soft pure murmur is scarcely discernible; and the expiratory murmur is increased in its intensity, and sometimes though not always, in its duration, so as nearly or quite to equal, and sometimes even to surpass, that of

inspiration. The voice may be not materially modified; but more commonly, when the stethoscope is applied to one of the infra-clavicular, or more particularly the supra-subscapular regions, it is observed to be shriller and louder than at other parts: and if the increased vibration is considerable, it is appreciable by the fingers as well as by the ear. It is in these cases that the emetic plan of treatment has been most extensively tried by myself, and has been found of such vast benefit.

In this form of the complaint, emetics have generally been ordered to be taken every morning, and have often been continued for three or four weeks; the frequency of their repetition, and the continuance of their use, being regulated by the duration, the decrease, or cessation of the symptoms. Their effect upon the cough has been really astonishing; and their influence upon other symptoms, though perhaps less obvious, has been exceedingly beneficial. Patients, after continuing them for a week, have sometimes said that their cough had entirely ceased, though it had existed for several weeks or months before; and that, after the immediate effect of vomiting had disappeared, their appetite had considerably improved. A few, and a very few, have desired that they might be allowed to discontinue their use, in consequence of the unpleasant temporary effects which they produced; but have at the same time acknowledged the great advantage they had derived from their exhibition. In conjunction with frequently-repeated emetics, iodine, in the form previously mentioned, has been almost always administered in these cases; and the tartar-emetic ointment, as a counter-irritant, at the same time applied to the infra-clavicular regions.

[He finishes his interesting paper by saying]

I am not so sanguine as to believe that the benefit derived will, in all cases, be permanent; particularly as in many instances the patients have, on their recovery, returned to the situations and employments which either originally induced or fostered their complaints. I do not even, for I cannot, assert that the means advocated will cure incipient phthisis; as, to be able to do this, it would be necessary to *demonstrate*, first the presence, and afterwards the absence of tubercles in the lungs: though I do believe, both from observation and from theory, that they are calculated to effect a cure: and I do state my

conscientious conviction, that they have, in some cases, stayed the progress of the disease; that in others they have suspended it altogether; and that thus, in the words of Sir James Clarke, "they have afforded time for the correction of the constitutional malady."

Guy's Hospital Reports, October 1840, *p.* 197—214.

[The following article will more particularly explain what we mean by the mercurial treatment of some forms of phthisis.]

71.—ON THE MERCURIAL TREATMENT OF SOME FORMS OF INCIPIENT PHTHISIS.

By Wm. Munk, M.D., Physician to the Tower-Hamlets Dispensary.

[This mode of treating some forms of phthisis, was first advanced by three of the most eminent of the Dublin physicians, Sir Henry Marsh, Dr. Graves, and Dr. William Stokes. Dr. Graves says in one of his clinical lectures:]

I must here in justice confess that the idea of this plan of treatment is not solely mine, but was founded on an analogy derived from the researches and experiments of Dr. O' Beirne, on scrofulous inflammation of the joints. An extensive experience and deep reflection first led Dr. O'Beirne to think that the acute stage of scrofulous inflammation of the hip and knee joints might be made amenable to active and energetic treatment; in other words, that inflammatory affections of the joints which terminate in some of the worst and most fatal forms of disease, namely, morbus coxæ and white swelling, might be checked *in limine*, and before the stage of hopeless ulceration was established. He, therefore, proceeded boldly and at once to try whether the disease might not be arrested in the commencement by rapid mercurialization.

[The disease in the form in which mercury was found useful frequently commenced after the manner of a common catarrh: the symptoms gradually increased in severity, and at last, continues Dr. Munk,]

There is emaciation and loss of strength; the phenomena of common pyrexia merge into or are changed for those of

hectic, among the symptoms of which, rapidity of pulse and morning perspirations will be found the most marked. There is severe and harrassing cough, with or without a viscid purulent expectoration, considerable hurry of respiration, shooting pains about the shoulders, disturbed and sleepless nights. The stethoscopic signs at this period consist of a minute and clear mucous rhonchus, more properly, perhaps, designated by the term muco or sub-crepitant, and existing only in the superior portions of the lung. In other cases there is heard at this part of the chest a modification of the normal respiratory sound, which, when once distinguished, can never afterwards be mistaken, but the description of which in words, as of most other sensations, is a task of difficulty. The respiratory murmur is here somewhat modified, scarcely if at all diminished in intensity, yet giving the sensation of being moister, as though the bronchial tubes were lubricated with more fluid than in their healthy state; not, however, as it would seem, in sufficient quantity to produce the subcrepitant or mucous rhonchi. In these instances we may occasionally, by very careful and prolonged examinations, detect at long intervals, especially on a deep inspiration, a solitary and minute mucous bubble. Here we generally find that expectoration is exceedingly slight, or altogether wanting; whilst in the cases presenting the subcrepitant or mucous rhonchi, expectoration does exist, although rarely to any great extent. Little or no information can be obtained from percussion during the earlier periods of the disease, the chest then sounding perfectly well. As the case, however, advances, more or less dulness is perceived; and when this occurs, the active auscultatory signs undergo a corresponding modification. At first there is an increase in duration and intensity of the expiratory sound, giving to the whole respiration a sensation of greater roughness: this increasing, passes onwards into well-marked bronchial respiration, coincident with which there is bronchophony and bronchial cough. It were useless to trace these cases further: tubercular matter has now been deposited in considerable quantity, the case is one of confirmed phthisis, and the period for the employment of mercury has passed.

[The disease might commence also with severe and universal bronchitis, and this form, therefore, differs widely in its com-

mencement from that described by Dr. Hughes in the preceding article. It might also commence with some general disorder of the whole system, "as for instance, essential fever, the exanthemata, influenza, &c."]

The condition now under consideration is neither more or less than that which determines scrofulous deposition to the lung, whilst it is, at the same time, the very action by which this deposit is effected.

[From the united labours of Sir James Clarke, Dr. Carswell, and Dr. T. J. Todd,] has resulted the important pathological law, that *tuberculous matter exists as a morbid constituent of the blood, is eliminated from it by a process analagous to, if not identical with, secretion, and is thus deposited, in a visible form, in different organs or parts.*

The contamination of the blood exists in some cases for a long period, and proceeds to a great extent before the deposition of tubercle commences. It seems not improbable that in such instances the sanguineous fluid becomes so thoroughly saturated (if the phrase be allowable) that an attempt at relief is then commenced, and nature sets about the work by eliminating the morbid product in conjunction with the secretions. Dr. Carswell is of opinion that the surfaces of mucous and serous tissues are those upon which tubercular matter is chiefly deposited; that as regards relative frequency the former very far exceeds the latter; for here, he says, "as into the great emunctory of the system, it appears to be separated from the blood, and becomes visible to us under a variety of forms." Dr. Carswell is at issue with most pathologists as to its deposition in the molecular structure of organs. In no one instance has he witnessed it so situated. Our own observations tend to an opposite conclusion, although we doubt not that the most frequent sites of tubercle are those pointed out by Dr. Carswell. We believe, with most other pathologists, that tubercular matter has no peculiar site; that it *may*, under certain circumstances, appear in any organ or part of the body, making its appearance there by a lesion of nutrition, whereby such matter is secreted in place of, or in union with, those molecules of the blood, which, appropriated to the organ itself, become an integral portion of its structure, and thus repair the losses it is ever undergoing.

This deposition is frequently a silent process; it commences and proceeds to a certain point, unaccompanied by any known pathological state, or, if the phenomena of disorder do occur, they are to be regarded as effects or coincidences rather than as causes. It will probably be found that this relation obtains only in those cases where scrofulous cachexia, and the contamination of the blood, which is its essence, has proceeded to a considerable degree, and where the local deposit is the result of the overcharged condition of the blood, rendering relief by the elimination of some portion of the morbid constituent indispensable.

In other, and perhaps the majority of instances, tubercle is deposited long ere the chachectic state has arrived at the degree above supposed. In these such an event is determined by irritation or inflammation, under the influence of which there is a larger afflux of blood to the part, and coincident with it an increase and modification of secretion. In lieu of the results of common inflammation, as occurring in a healthy subject, there is here deposited tubercle, or coagulable lymph variously modified, the modification consisting in the approximation of of that product more or less closely in character to tubercle. The analogy which exists between these two morbid products, and the mode in which one may pass into or give origin to the other, has been clearly shown by Dr. C. J. B. Williams.

Medical Gazette, October 16, 1840, *p.* 112—118.

[Further on, Dr. Munk proceeds to say:]

The close connection existing between irritation or inflammation in one or other of the tissues of the lung, and tubercle as cause and effect, has been particularly dwelt upon by Andral.* In reference to these pathological conditions he states that, in certain cases, and those not the least numerous, *the morbid alterations of the lung were evidently prior to the formation of the tubercles, and contributed to produce them.* In the Clinique Médicale there is a passage explanatory, in some respects, of that just quoted. In it the author alludes to the influence of bronchial inflammation as giving rise to tubercle.

Sir James Clarke also expresses his belief that inflammation in a tuberculous constitution may give rise to the deposition of

* Pathological Anatomy, translated by Drs. Townsend and West, vol. 2, p. 553.

tuberculous matter in place of coagulable lymph, which, in healthy subjects, is its natural product, and thus inflammation may be one of the immediate causes of tuberculous disease.

Cases like to these are far more numerous than is now generally admitted. The existence, in one class of cases, of inflammation within the lung, to be succeeded by the deposition of tubercle, as cause and effect, is widely different from those in which an inverse relation obtains—where tubercular matter is first laid down, and inflammation follows either as consequence or coincidence. The causes determining tuberculous disease towards the lung are, in these instances, widely different; in one it is well known, and within the reach of medicine; in the other it is unknown, and the means at our command are comparatively inoperative. One class of cases are curable, though, from circumstances, not always cured; the other are incurable, as regards medicine, though nature's efforts are, in a few rare instances, more successful.

As inflammatory action is in these cases the distinguishing characteristic, and throughout performs so important a part, it is but natural, that to its consideration, much attention should be given, and that its removal should be held as a canon of the first importance in our treatment.

A medicine was wanting more potent in its effects, one whose action was evidenced not so much upon the central organs of the circulation as are blood-letting and digitalis, but on the periphery of the system, the capillaries.

Iodine and its numerous preparations have been recommended to public confidence, as a medicine in some degree calculated to meet this want. The action of iodine is manifested principally as a stimulant of the capillaries; by giving tone to these vessels it expedites the circulation through them, obviates and removes congestion, and frees the secretions. It exercises little if any control upon the peculiar action, whatever it be, that constitutes inflammation; but after the removal of this state a degree of congestion commonly remains, and here iodine is most effectual.*

* There are peculiarities in the action of the analogous substance, bromine, which seem to point it out as peculiarly adapted to certain forms of scrofulous disease, especially phthisis. I am at this time making comparative trials with the bromide and iodide of potassium, the results of which, I hope, at a future period, to lay before the profession. Of its superiority in some forms of cardiac disease I am already pretty fully convinced.

It has, by abundant experience, satisfactorily been proved that in the treatment of common inflammation there are no means at our command, which in point of efficacy, will bear comparison with mercury.

Dr. Stokes writes as follows:—"As to the general employment of mercury in incipient phthisis, I am anything but sanguine, yet that by its assistance in removing irritation from the mucous membrane and parenchyma we may occasionally arrest the development and progress of tubercle, seems more than probable, for there can be little doubt that in the scrofulous habit there is more danger from the persistence of irritation of the lung, than from the action of mercury on the system."

The existence, then, of such irritation or inflammation, whether membranous, parenchymatous, or as is most frequently the case, the two combined, is that which calls for immediate attention to the lung, even at a temporary disregard of the constitution. Dr. Corrigan says that the use of mercury is in removing that degree of low local inflammation, which, allowed to remain unchecked or improperly treated, would terminate in tubercular deposition and consequent phthisis. And Dr. Graves after mentioning those cases of consumption which arise gradually and insidiously, whose commencement it is impossible accurately to determine, goes on to say, "the reason of this is because the tubercular affection of the lung is in such patients only of secondary importance, the disease which produced it having affected the whole system before the lung was contaminated. This happens in some, but in others an opposite train of phenomena is observed, and scrofulous inflammation commences in the lung before any general contamination of the system has taken place. It is in such cases, and such only, that mercury ought to be tried, and it will avail nothing except where the commencement of the scrofulous inflammation of the lung has arisen suddenly, and in consequence of the operation of some obvious cause, as catching cold, or the occurrence of hæmoptysis."

It may then, in general terms, be stated that the absence of pre-existing tubercular deposit from every organ of the body is the circumstance justifying our neglect of the contra-indication which scrofulous cachexia presents to the employment of mercury.

Its use, when once commenced, must be regularly continued until the gums become affected. From an irregular and indecisive administration of this medicine ill effects will almost invariably result. Should it, therefore, manifestly disagree, its exhibition must be immediately and finally desisted from. In other instances, where but slight phenomena of disorder occur, it becomes a question, to be decided only by the circumstances of the individual case, whether, despite of these, to continue its employment, or withdraw the medicine and attempt to remove the cause upon which its injurious effects appear to have depended. In the latter instance we may, perhaps, be justified in once more resorting to its use; but if it again disagrees, the medicine must be at once withdrawn, never more to be employed.

I have usually combined in one formula, with the mercurial, ipecacuanha and a sedative: the frequent irritative and distressing cough commonly attending this disease proving, as it does, a constant source of disquietude through the day, and of restless nights, with the results of broken rest, are indications sufficiently clear (independent of those derived from the general habit) for the administration of sedatives. Hyoscyamus or conium are those which I principally employ; but where these fail of producing the desired effect, recourse may be had to hydrocyanic acid, belladonna, the salts of morphia, &c. Ipecacuanha acts beneficially in freeing the expectoration, and I am inclined to think, determines the action of mercury more particularly to the bronchial mucous membrane.

However beneficially these measures may operate, it must not be forgotten that the employment of mercury is but preparatory to other and more strictly curative treatment.

One great object in administering mercury is to gain time for the employment of measures to restore the general health, by removing a local action which, allowed to continue, would give rise to such disorganization as quickly to place the patient out of the pale of cure, and long ere means calculated to work a salutary influence on the constitution could take effect. Unless this truth be fully admitted, and the practice to which it leads rigidly enforced, mercury should upon no account be administered.

Medical Gazette, October 23, 1840, *p.* 156—163.

72.—ON THE PREPARATIONS OF THE INDIAN HEMP,

IN THE TREATMENT OF TETANUS AND OTHER CONVULSIVE DISEASES.

By Dr. O'Shaughnessy, Professor of Chemistry in the Medical College, Calcutta.

[We give nearly the whole of the following valuable and curious account of this (to us) new article, together with the remarks of the editor of the *British and Foreign Medical Review*, as the account is too interesting to be much curtailed.]

This pamphlet contains a detail of facts of a very important kind, which, we doubt not, will cause a great sensation among the members of the profession throughout the world. We feel it, therefore, to be a duty to give as full an account of its contents as our space will permit. It will appear clearly from what we shall state that Dr. O'Shaughnessy has the merit of having added to *our* materia medica a drug of great and unequivocal powers, and, probably, a remedy of marked efficacy in diseases hitherto the most unmanageable. For the sake of accuracy, in a matter of so much consequence, we shall avail ourselves, as much as possible, of the author's own words, and endeavour to communicate all the more important facts in a series of extracts from his pamphlet.

"The narcotic effects of hemp are popularly known in the south of Africa, South America, Turkey, Egypt, Asia Minor, India, and the adjacent territories of the Malays, Burmese, and Siamese. In all these countries hemp is used in various forms, by the dissipated and depraved, as the ready agent of a pleasing intoxication. In the popular medicine of these nations we find it extensively employed for a multitude of affections. But in western Europe its use either as a stimulant or as a remedy is equally unknown. ..... Much difference of opinion exists on the question, whether the hemp so abundant in Europe, even in high northern latitudes, is identical in specific characters with the hemp of Asia Minor and India. The extraordinary symptoms produced by the latter depend on a resinous secretion with which it abounds, and which seems totally absent in the European kind. The closest physical resemblance or even identity exists between both plants; difference of cli-

mate seems to me more than sufficient to account for the absence of the resinous secretion and consequent want of narcotic power in that indigenous in colder countries.

Chemical Properties.—In certain seasons and in warm countries a resinous juice exudes and concretes on the leaves, slender stems, and flowers. Separate and in masses it constitutes the *churrus* of Nipal and Hindostan, and to this, the type or basis of all the hemp preparations, are the powers of these drugs attributable. The resin of the hemp is very soluble in alcohol and ether; partially soluble in alkaline, insoluble in acid solutions; when pure of a blackish-grey colour; hard at 90°; softens at higher temperatures and fuses readily; soluble in the fixed and in several volatile oils. Its odour is fragrant and narcotic; taste slightly warm, bitterish, and acrid. The dried hemp plant which has flowered, and *from which the resin has not been removed,* is called *gunjah.* It yields to alcohol twenty per 100 of resinous extract, composed of the resin (*churrus*) and green colouring matter (*chlorophylle*). Distilled with a large quantity of water, traces of essential oil pass over, and the distilled liquor has the powerful narcotic odour of the plant. The *gunjah* is sold for smoking chiefly.

Popular Uses.—The preparations of hemp are used for the purpose of intoxication, as follows: *Sidhee, Subjee,* and *Bang* (synonymous) are used with water as a drink, which is thus prepared. About three tola weight, 540 troy grains, are well washed with cold water, then rubbed to powder, mixed with black pepper, cucumber and melon seeds, sugar, half a pint of milk, and an equal quantity of water. This is considered sufficient to intoxicate an habituated person. Half the quantity is enough for a novice. From either of these beverages intoxication will ensue in half an hour. Almost invariably the inebriation is of the most cheerful kind, causing the person to sing and dance, to eat food with great relish, and to seek aphrodisiac enjoyments. In persons of a quarrelsome disposition it occasions, as might be expected, an exasperation of their natural tendency. The intoxication lasts about three hours, when sleep supervenes. No nausea or sickness of stomach succeeds, nor are the bowels at all affected; next day there is slight giddiness and vascularity of the eyes, but no other symptom worth recording.

Gunjah is used for smoking alone, one rupee weight, 180 grains, and a little dried tobacco are rubbed together in the palm of the hand with a few drops of water. This suffices for three persons. A little tobacco is placed in the pipe first, then a layer of the prepared *gunjah,* then more tobacco, and the fire above all."

We shall now give a brief extract of the result of Dr. O'Shaughnessy's experience of this remedy on the human subject; noticing, in the first place, the preparations used by him and their doses.

"The *resinous extract* is prepared by boiling the rich adhesive tops of the dried *gunjah* in spirit (sp. gr. 835,) until all the resin is dissolved. The tincture thus obtained is evaporated to dryness in a vessel placed over a pot of boiling water. The extract softens at a gentle heat, and can be made into pills without any addition.

The *tincture* is prepared by dissolving three grains of the extract in one drachm of proof spirit.

Doses, &c.—In *tetanus* a drachm of the tincture every half hour until the paroxysms cease or catalepsy is induced. In *hydrophobia* I would recommend the resin in soft pills, to the extent of ten to twenty grains to be chewed by the patient, and repeated according to the effect. In *cholera* ten drops of the tincture every half hour will be often found to check the vomiting and purging, and bring back warmth to the surface. My experience would lead me to prefer *small* doses of the remedy in order to excite rather than narcotize the patient."

Rheumatism.—The remedy was tried in several cases both acute and chronic, but, as appears to us, without very satisfactory results. In one of the cases the most marked catalepsy was produced, besides the usual intoxicating effects.

"In several [other] cases of acute and chronic rheumatism admitted about this time, half-grain doses of the resin were given, with closely analagous effects; alleviation of pain in most, remarkable increase of appetite in all, unequivocal aphrodisia, and great mental cheerfulness. In no one case did these effects proceed to delirium, nor was there any tendency to quarrelling. The disposition developed was uniform in all, and in none was headache or sickness of stomach a sequel of the excitement."

Hydrophobia.—This was an undoubted case of the disease and was full-formed before the remedy was given. The results are certainly most cheering, although death was not averted.

"By his own desire water was brought in a metallic vessel, which he grasped and brought near his lips; never can I forget the indescribable horrors of the paroxysm which ensued. It abated in about three minutes, and morbid thirst still goading the unhappy man, he besought his servant to apply a moistened cloth to his lips. Intelligent and brave, he determinately awaited the contact of the cloth, and for a few seconds, though in appalling agony, permitted some drops to trickle on his tongue, but then ensued a second struggle, which, with a due share of the callousness of my profession, I could not stand by to contemplate. Two grains of hemp resin in a soft pillular mass were ordered every hour; after the third dose he stated that he felt commencing intoxication; he now chatted cheerfully on his case, and displayed great intelligence and experience in the treatment of the very disease with which he was visited. He talked calmly of drinking, but said it was in vain to try, but he could suck an orange: this was brought to him, and he succeeded in swallowing the juice without any difficulty. The hemp was continued till the sixth dose, when he fell asleep, and had some hours' rest. Early the ensuing morning, however, Mr. Siddons, my assistant, was called up to him, and found him in a state of tumultuous agony and excitement. The hemp was again repeated, and again by the third dose the cheering alleviation of the previous day was witnessed. He ate a piece of sugar-cane and again swallowed the juice; he partook freely of some moistened rice, and permitted a purgative enema to be administered. His pulse was nearly natural, the skin natural in every respect. His countenance was happy.

Four days thus passed away, the doses of hemp being continued. When he fell asleep, on waking the paroxysms returned, but were again almost immediately assuaged as at first. Meanwhile purgative enemata were employed, and he partook freely of solid food, and once drank water without the least suffering. But about 3 p. m. of the fifth day he sunk into profound stupor, the breathing slightly stertorous; and in this state he continued, and without further struggle death terminated his sufferings at 4 a. m. on the 27th November."

Dr. O'Shaughnessy's remarks on this interesting case seem well warranted, namely, "that at least one advantage was gained from the use of the remedy—the awful malady was stripped of its horrors; if not less fatal than before, it was reduced to less than the scale of suffering which precedes death from most ordinary diseases."

Cholera.—The epidemic in a few cases of which the hemp was tried was mild, and the results are therefore inconclusive; but they are, as Dr. O'Shaughnessy says, "*promising*, and deserve the attention of the practitioner."

Tetanus.—Several cases of the traumatic kind are recorded, which cannot fail to excite the highest expectations of the power of this remedy in this generally fatal disease.

In the first case, the disease supervened on dysentery from the action of a native moxa. Symptoms of tetanus occurred on the 24th Dec., and were well marked on the 26th, when (the case being considered hopeless) hemp was administered, at first in doses of two grains every third hour, afterwards of three grains every second hour. The usual intoxicating effects were produced, and the spasms were speedily mitigated, and at length finally ceased on the 6th Jan. The dysentery, however, proved fatal on the 23d.

"The *second case* was that of Chunoo Syce, in whom tetanus supervened on the 11th December, after an injury from the kick of a horse. After an ineffectual trial of turpentine and castor oil in large doses, two-grain doses of hemp resin, were given on the 26th Nov. He consumed in all 134 grains of the resin, and left the hospital cured on the 28th December.

Third Case.—Huroo, a female æt. 25, admitted to the Native Hospital on 16th December, had tetanus for the three previous days, the sequel of a cut in the left elbow received a fortnight before. Symptoms violent on admission. Turpentine and castor oil given repeatedly without effect; on the 16th and 17th three grains of hemp resin were given at bed-time. On the morning of the 18th she was found in a state of complete catalepsy, and remained so until evening, when she became sensible, and a tetanic paroxysm recurred. Hemp resumed, and continued in two-grain doses every fourth hour. From this time till the third hour tetanic symptoms returned. She subsequent-

ly took a grain twice daily till the 8th of February, when she left the hospital apparently quite well.

Mr. O'Brien has since used the hemp resin in five cases, of which four were admitted in a perfectly hopeless state. He employed the remedy in *ten-grain doses* dissolved in spirit. The effect he describes as almost immediate relaxation of the muscles and interruption of the convulsive tendency. Of Mr. O'Brien's seven cases, four have recovered.

In the Police Hospital of Calcutta, the late Dr. Bain has used the remedy in three cases of traumatic tetanus, of these, one has died and two recovered.

A very remarkable case has recently occurred in the practice of my cousin, Mr. Richard O'Shaughnessy. The patient was a Jew, æt. 30, attacked with tetanus during the progress of a sloughing sore of the scrotum, the sequel of a neglected hydrocele. Three-grain doses were used every second hour, with the effect of inducing intoxication and suspending the symptoms. The patient has recovered perfectly, and now enjoys excellent health."

We think no unprejudiced reader of Dr. O'Shaughnessy's cases of tetanus can hesitate to concur with him in his estimate of the remedy employed in them. "The preceding facts," he says, "seem unequivocally to show that when given boldly and in large doses, the resin of hemp is capable of arresting effectually the progress of this formidable disease, and in a large proportion of cases of effecting a perfect cure;" and we are, moreover, after reviewing the whole of the evidence here submitted to us, willing to join with him in the belief, "that in hemp the profession has gained an anti-convulsive remedy of the greatest value."

We regard the profession as under great obligations to Dr. O'Shaughnessy for the publication of the important facts detailed in the pamphlet; and we hope this obligation will be not the less willingly admitted that the author shows as much modesty in preferring his claims to notice, as he exhibits philosophical caution in his experiments and in drawing conclusions from them.

British and Foreign Medical Review, July 1840, *p.* 225.

73.—BELLADONNA IN DYSMENORRHŒA.

By Dr. Burne, Physician to the Westminster Hospital, &c.

[Dr. Burne in his work on habitual constipation, recommends the extract of belladonna in this painful affection. He says:]

In the treatment of painful menstruation I have found the belladonna most valuable. I have usually prescribed it in the dose of a *quarter of a grain of the extract,* made into a small pill, which may be taken twice a day, where patients suffer, but not very severely, for two or three days about the menstrual period. In the more urgent cases I advise it to be repeated in one hour; then again after an interval of two; then of three hours; till two, three, or four doses have been taken, according to circumstances: and I have seldom been disappointed in the result. It may produce giddiness and dimness of sight, but they soon pass away. Its unpleasant effects are less than opium, and its efficacy decided.

[Speaking of the effects of the ergot of rye in menorrhagia, the same author says:]

I have heard persons express doubts of its efficacy; but so many cases under my own care have been benefited or cured by it, that I cannot but regard it as a most valuable addition to the materia medica.....Cases in which an exhausting draining hemorrhage has persisted for five or six weeks after abortion have yielded at once to the influence of the ergot.

It is very important that the ergot should not be at all in a state of decay.

British and Foreign Medical Review, July 1840, *p.* 44.

74.—ON THE USE OF QUININE IN YELLOW FEVER.

By the Editors of the Philadelphia Medical Examiner.

The Lafayette Gazette mentions the salutary effect in cases of yellow fever, derived from the exhibition of the sulphate of quinine, in very large doses. Several facts coming under our immediate knowledge enable us to corroborate this statement, and to add that we believe the "quinine treatment," as it is

termed, to be a most important and incalculably beneficial discovery.

The manner of employing the quinine in fever cases, which has been followed by such astonishing success, differs altogether from the mode in which that remedy is usually administered. The common practice of physicians has been to give it in small doses during the periods of remission. The new practice is based on a different theory, and varies essentially from the old. When quinine is taken in large quantities, medical men have observed that it produces but a slight and inconsiderable stimulating effect, which is succeeded within a few hours by a powerful sedative impression, that is generally durable. With this view the medicine is exhibited in one very large dose, of from twenty to sixty or eighty grains, in the very incipiency of the fever, while the morbid action appears to be in process of formation—that is, within six or eight hours immediately after the appearance of the earliest symptoms. It is all important, if we rightly understand the theory of its use, that the quinine should be employed before local irritation or congestion has taken place, or, in other words, while the malady is confined to the nervous system, and the organization is as yet unimpaired.

When taken under such circumstances, its first effects are a very slight increase of the febrile symptoms; the pulse perhaps becomes quickened, the respiration more hurried, and the usual consequences of stimuli are present. This condition is, however, but transient, and is promptly followed by corresponding depression. All the more violent symptoms subside; the temperature of the surface is lowered; pain diminished; the pulse is gentle and subdued; the skin is covered with a healthy moisture: in short the chain of morbid associations becomes broken—sleep is superinduced, from which the patient awakes refreshed, and substantially better; and within twenty-four or thirty-six hours is considered in a state of convalescence. The treatment is, of course, not exclusively confined to the employment of quinine, though this is the chief remedial agent. The usual means of obviating tendencies to local irritation must be resorted to. The skilful practitioner will modify his curative measures according to the necessities of the case; cupping, leeching, the warm bath, and local applications, may be used as circumstances call for their employment. The quinine is administered in a single dose; the object of the physician is

to bring about the sedative influence of the remedy, before any of the organs, as the head, stomach, &c., become specially affected by the disease, If it should fail to produce the anticipated effect, the case is too far advanced for a second trial, and it must be treated on general pathological principles. Let it, however be remembered that in thirty or forty cases which have been subjected to this novel curative method, not one has terminated fatally. The action of the quinine has been uniformly most salutary, operating like a charm, and dissipating the symptoms of the malady ere they become concentrated on particular organs.

We have been an eye-witness of the excellent effects of the quinine treatment in several instances, and can with justice render a tribute to the zeal and talent displayed by some of the members of the profession in the employment of this remedy. We are not aware to whom the merit of the discovery belongs. Those physicians who have paid particular attention to its *modus operandi,* and have employed it in the largest number of cases, are Drs. Hunt, Beattie, Farrell, and Mackay. These gentlemen concur in their views of the theory upon which the treatment is based, as well as in the unexceptionably advantageous results which accrue from its application.

American Medical Examiner, Oct. 19*th*, 1840, *and British and Foreign Medical Review, July* 1840, *p.* 279.

75.—OBSERVATIONS ON THE OXIDE OF SILVER.

By C. H. B. Lane, Esq.

[We strongly recommend the careful perusal of the following communication from Mr. Lane. His reasons for the employment of the oxide instead of the nitrate of silver seem good, but want the support of that general experience, which has testified so unequivocally to the excellent remedial efficacy of the nitrate: and an English practitioner always feels diffident in trying a new remedy, when he has already one of a similar nature and of undoubted efficacy. Mr. Lane's reason for supposing that the oxide will not produce that discolouration of the skin which is occasionally produced by the nitrate seem plausible; and if correct, we should be enabled to administer

this most valuable remedy with more confidence,—although we confess that we think the fear of discoloration often groundless, considering the small doses in which it is given, and the short time generally required before its good effects are manifested.*]

The nitrate has been the form in which silver has been mostly employed; we owe it to alchymical research which, though futile as to its immediate object, has had the beneficial result of affording us numerous powerful weapons wherewith to combat disease. As a local application it is in very general use; it acts chemically as a caustic, and is supposed to possess peculiar stimulant powers in addition, which opinion was originally advanced by Mr. Higginbottom, whose work is, I believe, the only English monograph on the subject which we possess. In the present day there has been some tacit acknowledgment of a contra-stimulant influence, but it is vague and undefined. I do not believe nitrate of silver to possess any stimulant action beyond that connected with its causticity: any destructive process tends to excitement if reaction takes place, and will be indicated by pain, that vigilant sentinel of our corporeal welfare. The action of silver I consider as directly sedative as that of lead, only differently evinced. While the primary sedative action of lead is on the nerves of animal life, perhaps that of silver is in special relation to those of organic life, by which the capillary circulation is believed to be governed—this refers to the primary effect, for once the constitution affected, the sedative impression is conveyed to the nervous centres, and the further results may be varied. We will take a case of morbid vascular action occurring in a cutaneous surface, with a view to contrast the respective therapeutic action of lead and silver. We find the application of acetate of lead attended by diminution of sensation, and if the surface be at all abraded, some degree of pain may ensue from the contact of the foreign body, as also from the stimulation of the free acetic acid. The continued application of the lead may annihilate the sensation of the part, and that safeguard of the surface being destroyed, organic life is but too readily arrested, an evil to be carefully avoided. Suppose, on the other hand, we apply the nitrate of silver to what is termed an inflamed surface. It acts primarily as a caustic, becoming decomposed

* See an able article on this subject by Dr. Hudson, at page 87 of this vol.

and combining with albumen, first as a chloride, and subsequently as an oxide, constituting a foreign body which protects the surface from external impressions, a mechanical effect well described by Higginbottom; and this process is attended with more or less pain in proportion to the liability of the surface to impression either from abrasion or excited sensibility: slight organic action even may ensue, causing serous effusion. The excitement, however, generally quickly disappears, and a distinct therapeutic action is evinced. The morbid state, whether demonstrated in increased capillary circulation, secretion, or absorption, subsides; when the affection is local it is often quickly subdued. In the incipient stage of anthrax there is no local application which equals nitrate of silver in efficacy; in several cases where freely applied, I have seen it arrest the local mischief which there was every reason to suppose would have otherwise gone through the tedious process of sloughing—suppuration and ulceration—and this was what induced me first to suspect that more than mere stimulation took place. Looking at the medicinal influence of nitrate of silver in erysipelas, and various forms of ulcer, in which the existence of excitement to a greater or less extent cannot be denied, I think we shall be still further inclined to lay aside the theory of mere stimulation.

The previous causticity of the lunar caustic is most advantageous in many cases, as for example, in the application to chancres and in chronic ophthalmia, where the destruction of morbid growth is desirable before there can be any susceptibility of sedative impression. There appears but little doubt that the application of nitrate of silver to syphilitic sores, if adopted while the affection is yet local may preclude the necessity of constitutional remedies by destroying the centre of morbid action. Yet on the other hand, the production of the sedative effect alone is often more advantageous, for where the organization is weak, the primary destructive causticity is badly borne, though despite that inconvenience, nothing has been hitherto substituted which will as completely answer the purpose as lunar caustic carefully applied.

The question now is—can the caustic stimulation be avoided, and a simple sedative action be instituted through the agency of silver?—to this I would reply in the affirmative! I would recommend the substitution of the oxide for the nitrate, which stands in the same relation thereto as the oxides of antimony

and mercury do to tartar emetic and corrosive sublimate respectively. Thus we shall have a mild and manageable preparation —entirely devoid of causticity, which my brief experience leads me to hope will be found of high utility both as a local and internal medicament.

I have applied an ointment of oxide of silver with decided effect in the various stages of gonorrhœa, and with but little inconvenience, beyond what might be fairly attributed to the mere mechanical irritation of the bougie. Over the nitrate it has the great advantage of not producing the caustic irritation, by which, at the same time that the morbid secretion may be arrested by a process resembling tanning, of the urethral lining membrane, there is considerable additional probability that metastasis of the irritation will ensue. The application of the oxide of silver, on the other hand, may be resorted to so as gradually to subdue the disease. I would not, however, by any means recommend its employment during the very acute stage while much constitutional irritation exists, and, subsequently, only as an auxiliary to the usual medicinal treatment. In chancres, I am convinced that I have seen the most beneficial results attend the application of the ointment. I have often found the sanative effect surprisingly accelerated after the failure of other remedies, and its use is not attended with pain. It is the oxide of silver which exists in Mr. Guthrie's black ointment, named by some "*infernal*" though far from violent in its action, and I believe available to a much greater extent than usually supposed. His formula consists of ten grains of nitrate of silver, fifteen drops of solution of lead, and a drachm of lard. The oxidization is effected by trituration and exposure to the atmosphere and light. A much readier mode of preparing it is from the oxide itself. The lead promotes sedative action but is not essential to it.

We will now turn to the internal administration of silver. The use of the nitrate has been strongly recommended by many in nervous diseases of all kinds, and also in gastric affections, which are especially states of excitement, though of course constitutional debility may exist, as is often the case. With the strong conviction of the powerful sedative influence of silver, used externally, I could not doubt that the result of its internal administration would correspond from analogy with lead, of which the powerful influence over the nervous centres is indisputable.

With respect to the nitrate, the risk of cutaneous discoloration has always been a great objection to persistence in its use, when it was deemed requisite for any lengthened period. Now the nitrate is a soluble salt, which is changed by the free hydrochloric acid of the gastric juice into a chloride: this is taken into the circulation, and when conveyed to the cutaneous surface is converted by its strong affinity for albumen and by the action of light into an oxide, which, however, cannot apparently permeate the capillaries, or we might expect it to be removed at a future period, as is the bile in jaundice. The oxide of silver, however, remains indelibly fixed; nor am I aware of any recorded instance of its perfect re-absorption. Again, the nitrate cannot be administered freely on account of its causticity, so that a full sedative impression is not obtained, perhaps even when the mischief of discoloration is done. I think I have fair reason to expect that the above evils would be avoided by substituting the oxide for the nitrate of silver. The transmutation of the salt in the cutaneous surface would then be anticipated, and its transmission thereto prevented; for, as I just remarked, the cutaneous capillaries do not appear permeable to the oxide. We should, by freer administration, more readily impart the sedative impression through the medium of the nerves of the stomach, like that of other medicines of the same class. It was suggested to me that the oxide would probably be decomposed by the free acid of the gastric juice, but, from experiments I have made, I do not anticipate such a result. Experience alone can test the truth of the theory—to that I appeal, and by it am willing to abide. If it be successful, I shall have the satisfaction of adding to our store, a therapeutic agent of peculiar utility.

The readiest mode of preparing the oxide of silver is by acting on the nitrate with potassa; we may remark that the grey nitrate of silver contains some portion of the oxide. The admixture of two drachms of the hydrate of potass with half an ounce of nitrate of silver will yield about three drachms of the substance in question. Its internal administration may generally commence in the dose of half a grain. I have not carried it beyond six grains in the twenty-four hours. I have used the ointment of oxide of silver with the proportion of from five to ten grains to the drachm of lard.

I will now briefly refer to the cases in which the remedy has been used within my own knowledge during the last twelve months. The unsuccessful cases are noticed in common with the successful ones, in order to afford some direction as to when the use is likely to be attended with advantage. A greater aggregate of success has been obtained than might have been anticipated from a mere experimental enquiry, which strongly encourages us to its continuance.

Case 1.—Mr. J. had two syphilitic sores on the glans penis which could not be got to heal during four or five weeks, though a variety of local applications were resorted to. With the use of the oxide of silver ointment they healed in ten days. At a subsequent attack he himself suggested the use of the ointment, which was used with the same satisfactory result. He did not take mercury.

Case 2.—Senor G. was labouring under exceedingly irritable chancre of phagedenic tendency. Black wash and ointment of the nitric oxide of mercury were ordered for him by Mr. Guthrie, who saw him with me in consultation. At the end of a fortnight he was worse rather than better. I then used the oxide of silver ointment, which effected the healing process in a week.

Case 3.—Mr. M. had syphilitic sores on the prepuce. Caustic was applied in the first instance, and subsequently the oxide of silver ointment daily. The chancres were well within a week, but he subsequently suffered severely with secondary symptoms.

In many other cases of syphilis I have since been constantly in the habit of using the ointment in question, and have generally found it answer better than any other local application. Also other medical men, who have been induced to try it by my recommendation, have expressed themselves much pleased with its efficacy.

Case 12.—M. P. æt. 50, had suffered ever since the cessation of the menses, at the age of 45, with gastric and uterine irritation, indicated by frequent vomiting, loathing of food, flatulency, sour eructations, constipation, pain in the back, sense of bearing down, and leucorrhœa. She was in a state of excessive debility. Had been under the care of Sir James Clarke and others, without deriving any benefit. In the course of a fortnight, with the use of mild aperients and half-grain doses of oxide of silver twice and three times a day, she was greatly

relieved, and from that time rapidly progressed to recovery. She was under the care of my friend Mr. C. J. Phillbrick, of Colchester.

Case 14.—J. D. was first seen by me Sept. 3rd, 1839. He had been suffering with gastralgia during five months, and had derived but slight benefit from stimulants, opiates, or counter-irritation. He complained of constant pain in the scrobiculus cordis, violently exacerbated once or twice daily, the paroxysm sometimes lasting two hours, and of such intensity as to compel him to lay down wherever he might be. No sickness, pulse natural, bowels regular. A sensation of emptiness was experienced before eating, and soreness and fulness afterwards He was ordered half a grain of the oxide of silver three times a day. On the 5th he expressed himself much relieved; there was less tenderness, and he felt as if something was removed from the stomach: the unpleasant sensation before and after eating was also much diminished. He went on favourably till the 19th, when the symptoms recurred, but were again subdued by the administration of the remedy in doses of a grain and a half three times a day. The man was a patient of Dr. Ryan.

Case 15.—Mrs. M. æt. 37, was affected with complicated and anomalous abdominal disease, of which, suffice to say, diarrhœa and pyrosis constituted distressing symptoms, which were relieved in forty-eight hours by the use of oxide of silver. The pyrosis had existed previously for three months. She was seen twice by Dr. Todd.

Case 16.—Mr. L. æt. 44, had been for some years on and off affected with pyrosis, gnawing pain in the stomach, and various other dyspeptic symptoms; which all ordinary means failed in alleviating. Mr. Dennet of Storrington, Sussex, whose patient he was, reported him completely relieved with the oxide of silver.

Case 17.—T. D. had suffered at times for the last five years with severe gastralgia, generally occurring towards Autumn. There was constant aching and tenderness in the region of the stomach. He also complained of nausea, and at times a quantity of clear water was thrown up. Anodynes, bleeding, calomel and opium, stomachics, bismuth, and counter-irritation were in turn resorted to without benefit. After three months, oxide of silver was prescribed, and from it complete relief was speedily obtained. Dr. Todd saw this patient two or three times.

Case 18.—Jane W. æt. 25, had been affected with occasional pain of a gnawing character in the left hypochondrium for the last three years: it sometimes came on very violently, but without reference to the stomach being full or empty, and has been much worse for the last *few* weeks.—Bowels regular, and general health pretty good, but "the pain wears her out." At the expiration of three weeks complete relief was afforded by administering the oxide of silver in half-grain doses twice daily, and she had become much stronger and more cheerful. She was a patient of Dr. Golding Bird, at the Finsbury Dispensary.

[Several other cases are likewise related, in some of which it failed, and in others was successful. It was successful in relieving pain in the left side, in establishing the health of weakly and hysterical subjects, in restraining diarrhœa, in hæmorrhage from the bowels after confinement, in profuse menorrhagia when the discharge came away in clots, &c.

Mr. Lane ends his interesting paper by the following observations:]

In relation to the above cases the following brief considerations may be advanced. The oxide of silver is entirely devoid of causticity, its local application occasioning no pain, a valuable fact in reference to its internal administration. The remedy appears beneficial in various nervous affections, when they have become idiopathic, that is to say, when the cause, whether originally seated in the stomach, uterus, spinal cord, or other viscus is removed, and the impression alone remains behind. There are no cases in which the oxide of silver is so rapidly beneficial as in cases of idiopathic gastric irritation, whether evinced in pyrosis, gastrodynia, or want of relation between the stimulus of food and the action of the stomach; but if organic change have taken place in the organ, the same benefit is not to be anticipated. In obstinate diarrhœa and hæmorrhages I am greatly in hopes that the silver will be found analogous in its action to lead—as efficacious, but milder and more manageable in its effect; this however requires much further trial. It would be unfair that the merits of the oxide of silver should be at all suffered to rest on its efficacy in epilepsy, of which we are well assured that the great majority of cases depend on organic change, which the medicine cannot influence. In reference to its utility in epileptic cases, all that can be said is, that if, as I consider,

the oxide of silver will not produce a discoloring effect on the skin, the utmost advantage that can be expected from the dangerous administration of the nitrate may be safely and fearlessly attained by the substitution of the oxide.

I shall conclude by adducing the evidence on the subject which has been kindly afforded me in written communications.

Dr. Clendinning informs me that—

"The oxide of silver has, so far as tried at the Marylebone Infirmary, appeared to exert an influence in epileptic and gastralgic affections similar to that long attributed to the nitrate of silver. The particulars of two or three cases in which the medicine appeared to act decidedly beneficially, have been communicated to Dr. C. by the resident officers, and other cases have been mentioned to him by the same gentlemen in which more or less relief seemed to attend the use of the remedy."

Dr. Ryan writes thus—

"I have tried the oxide of silver in very bad cases of epilepsy I think with some benefit." "From these I am disposed to think that it may prove a valuable remedy, but my experience is at present too limited to justify a positive conclusion. It had a very decided effect in intense gastralgia."

Dr. Golding Bird makes the following observations :—

"From the experience I have had in the administration of the oxide of silver, I have formed a high opinion of its value as a therapeutic agent; not from its possessing any marvellous specific power, but from its tonic, and to a certain extent, sedative properties—rendering it as far as I have seen an useful remedy in several forms of neuralgia, and especially in certain cases of dyspepsia attended with irritable stomach and pain in that viscus after taking food, when the secretions of the liver and intestines have been corrected as much as possible by the careful administration of alteratives. The oxide of silver appears to me to possess the good qualities of the nitrate without its inconveniences, and to exert a more directly sedative action than that salt; in which property indeed it approaches the acetate of lead, at least if the effects of its administration in menorrhagia can be admitted as sufficient grounds to justify this conclusion."*

Medico-Chirurgical Review, July, 1840, p. 289.

Caution

* Oxide of Silver forms an explosive Compound with Caseous Soda Gelatine &c

76.—UNFERMENTED BREAD.

The profession is aware that Dr. Whiting, a few years ago, took out a patent for bread prepared without yeast, by combining muriatic acid and carbonate of soda, so as to produce common salt in the dough. From some cause or other Dr. Whiting's bread did not take with the public, though it certainly was a wholesome composition for weak stomachs. Mr. Dodson, of Blackman street, Southwark, has much improved upon Dr. Whiting's formula. We have been using his bread, prepared in the same manner as Dr. W's., but with larger proportions of the muriatic acid and soda, for some months, as have several of our friends and patients. We can speak to its wholesome qualities, and to the ease with which it is digested, without turning acid on the stomach. We recommend our dyspeptic friends to try it—especially the brown bread, of which all our patients highly approve. Mr. D. has extended the same process to several species of pastry, and, we think, with much success.

Medico-Chirurgical Review, July, 1840, *p.* 285.

77—OBSERVATIONS ON THE OIL CONTAINED IN ERGOT OF RYE.

By Samuel Wright, Esq., B. A., V. P. C. S. E., &c. &c.

[Mr. Wright in a series of interesting experiments seems to prove that the oil which he procured from ergot of rye possesses the same activity as the crude drug. On injecting the oil into the arteries and veins of animals the same effects were produced as by the simple infusion; exactly the same influence was exerted upon the brain and spinal cord, subject to all the modifications which attend dilute and concentrated doses: even breathing the vapour from the oil in a close room had its peculiar effects on the system, as experienced by Mr. Wright himself, who states that on such occasions he felt "a curious tingling sensation over his limbs, distressing lassitude, irritability, and giddiness." Having ascertained that the oil possessed the same physiological action as the crude drug, he proceeds to state that its therapeutic action is also identical. He says:]

I have employed it in nine different instances, where the exhibition of ergot was peculiarly indicated, and in all of them it answered most satisfactorily. In four of these cases, in which the contractions of the uterus were sluggish and imperfect, yet the *os uteri* sufficiently dilated, it produced very increased action in six minutes, and delivery speedily followed. In three similar cases, the same effect was produced within ten minutes succeeding the exhibition of the drug, and the termination was equally favourable. In another instance, where the pains had ceased without any evident cause, and the progress of labour was interrupted, it restored the contractions of the uterus in thirteen minutes, and within half an hour, an easy and a safe delivery was effected. In the ninth example, the pains were for the most part suspended, from sudden terror with which the patient was seized; the pulse had risen from 75 to 130 beats per minute, and an alarming irritability of the whole system was prevalent. The administration of the oil in this case reduced the pulse to 90 in less than ten minutes; the irritability in a great measure subsided, and during a state of calmness, the uterine contractions were vigorously and steadily renewed, and within an hour from the time at which the dose was given, parturition was fully completed.

Dr. J. Y. Simpson, Professor of Midwifery in the University of Edinburgh, very kindly tried the oil of ergot, and his opinion of its efficacy is thus expressed, in a communication with which I was recently favoured by him. "I have repeatedly employed your preparation of the ergot, and have always preferred it of late, because it has appeared to me to act with more precision than the infusion of the powder, and its dose is more easily regulated. I have used it both in cases of lingering parturition, dependent on deficient uterine contraction, and also in instances of *post partum* hæmorrhage. In one case of the latter, where the uterus relaxed, again and again, after the repeated introduction of the hand into its cavity, I gave your preparation in a large dose, (60 drops and repeated,) and very shortly afterwards the uterus began to contract firmly, and the woman, who was much reduced by the flooding, complained of the severity of her after-pains."

Besides the cases already mentioned, I may state that I have twice administered oil of ergot in troublesome diarrhœa, and with very marked advantage. The dose was 10 drops every

three hours, and both the patients were cured on the following day. It must be understood, however, that this remedy acts simply by subduing an inordinate irritability of the intestines, for it is not physiologically an astringent.

I have also repeatedly given it in cases of irritability and cramp of the stomach, and have never known it fail to relieve or remove the symptoms.

The dose of the oil is from 20 to 50 drops. It may be given in any convenient fluid vehicle, such as cold water, warm tea, or weak spirit and water. The two latter I have found to be the most serviceable; for the result of some comparative trials which I have made has been, that the action of the oil is best secured by administering it in a dissolved or tolerably diffused form.

As an officinal article, the oil of ergot possesses many advantages which are wanting to the crude drug. It is of easy preparation and may be kept for any length of time. I have a specimen which has been prepared for four years, and on trying it the other day, I found its activity to be in no degree diminished. The rules to be observed in its preservation, are simply to keep it in a well-stoppered bottle, and in a cool, dark place. An elevated temperature will volatilize it if there be any opening for its escape, and if not, there is produced deep discoloration. The prolonged action of sun-light has a similar effect. In either case the strength of the oil is diminished.

It is more easily and readily given than an infusion of the grain; it has a much less disagreeable taste, and operates with greater rapidity. It has also the very desirable advantage of rarely producing sickness. The nauseating effects of the common infusion are frequently complained of; and, not seldom have they been a means of its popular condemnation. But the oil is in a great measure free from this objection. I have never known it to produce sickness or vomiting, and similar has been the experience of my medical friends.

I have found this oil a valuable external application in cases of local rheumatism. I have tried it in three instances, and in all of them it has proved curative. The affected part should be well rubbed with it for a quarter of an hour, night and morning, until relief be obtained. It is one of the best remedies with which I am acquainted for the cure of toothache. I have repeatedly known it subdue the pain when creosote has

failed. But, perhaps its greatest value, as an external application, is in the arresting of hemorrhage. I have often wounded small arteries in dogs and rabbits, and subdued the bleeding completely with a drop of this oil. Hemorrhage from the jugular and femoral veins has been similarly arrested. The troublesome bleeding which sometimes follows the extraction of a tooth, and leech-bites, it is equally efficient in stopping.

In a severe case of epistaxis, I arrested the homorrhage, by injecting up the nostrils equal parts of very dilute spirit and oil of ergot; and I have little doubt that in the severe cases of flooding which succeed delivery, the injection of this oil diffused through water into the uterus, would be productive of the happiest results.

[Mr. Wright gives us an account of the way in which the oil may be procured as follows:]

If ergot of rye, in a state of fine powder, be heated in a retort, there distils over, a thick oily matter, having an offensive smell, a bitter acrid taste, and a colour varying from a light brown to a perfect black. This is the oil of ergot in an empyreumatic form, and the characters above expressed, are strong in proportion to the heat employed. It was thus separated by Vauquelin, and was consequently described by him as thick and rancid, having the appearance of fish-oil; properties, which, as it will shortly be seen, belong not to it in its natural condition, and are only produced by its partial decomposition.

Another way in which this oil may be obtained, is by squeezing the ergot (previously reduced to powder, and placed in a canvass or a muslin bag) between two plates of iron, heated to the temperature of boiling water. As thus separated, the oil is more fluid, lighter in colour, and less offensive to the smell, than when prepared in the manner first described.

A third process, and a convenient one for ordinary purposes, is to digest the ergot in *liq. potassæ* at a temperature of 120°—150°, until a perfect saponaceous solution be formed. The liquid is then to be diluted with half its weight of water, exactly neutralized with sulphuric acid, and submitted to distillation from a saline or an oil bath. The product is white, adhesive, and fatty-looking, almost free from empyreuma, and nearly tasteless.

It may also be separated by digesting ergot in alcohol for some days, filtering the fluid, and then allowing it to evaporate spontaneously. The oil thus obtained, however, is not pure, owing to the alcohol being an active solvent of the osmazome and colouring matter.

The readiest and best, though unfortunately, the most expensive way of obtaining this oil, is by percolating ergot in a state of fine powder, with sulphuric ether. By allowing the ether to evaporate spontaneously, the oil of ergot is left in its purest form.

As thus prepared, it usually consists of two portions—the one, colourless and translucent, the other, having a reddish-brown hue. The latter character is an acquired one, and simply dependent upon the age of the ergot. In old specimens, the oil is coloured throughout, and often deeply; in recent ones, on the contrary, it is not unfrequently entirely free from colour.

Edinburgh Med. and Surg. Journal, July 1840, *p.* 51—62.

78.—ON THE ACTION OF THE HYDRATED SESQUIOXIDE OF IRON ON ARSENIC.

By Douglas Maclagan, M.D., Lecturer on Materia Medica.

[In our forty-second article at page 17 of this volume, will be found some very interesting remarks on the efficacy of the hydrated peroxide of iron, as an antidote to arsenic, and we here place before our readers more matter on the same subject, as being confirmatory of what was before related. Dr. Maclagan commences by saying that]

The hydrated sesquioxide of iron was first proposed as an antidote for arsenic by Drs. Bunsen and Berthold of Gottingen, who published a pamphlet on the subject in Germany. The importance of the question led many experimenters, especially on the continent, to put its powers fairly to the test, and there seems little reason to doubt that when administered in sufficient quantity, it either arrests or totally prevents the action of the poison on animals.

It has been supposed by some that the oxide may prove preventive of the action of the arsenic mechanically, as charcoal has been found to do, by enveloping the poison, and protecting the stomach from its contact, and the large quantity in which the oxide requires to be employed, naturally favours such a supposition. It has been found, however, that the hydrated sesquioxide of iron has the power of removing arsenic from its solutions in water, and from this we are led to infer that it has really the power of combining with the poison, and rendering it insoluble. In order to remove the arsenic totally, a large amount of oxide requires to be employed. Mr. Brett did not succeed in doing so when he used eight or ten grains of oxide to one of arsenic; but Dr. Mackenzie removed arsenic completely from its solution, when he used the proportion of twelve grains of oxide to one of arsenic.

[Dr. Maclagan then relates experiments by which he proves that when the oxide is used in sufficient quantity, it fully answers the purpose, "and has the power of completely removing arsenic from its solution in water, and retains the arsenic with such force as to render it *a priori* probable that it should, from its insoluble condition be rendered inert." He also affirms that Mr. Brett was led to an opposite opinion from using the oxide in too small quantities. It will be observed by the following experiment that the *dried* oxide was not nearly so useful as the magma, sixty grains of the former being required for one grain of arsenic, while only about twelve grains in the form of magma were required.]

The oxide carefully dried at 180° was likewise tried, and was found to withdraw arsenic completely from its solution. Sixty grains of this dry oxide were found to remove completely one grain of arsenic, but it was obviously very inferior in power to what it had been when in the form of magma, for twelve grains of the dry oxide appeared to produce little or no diminution in the quantity of arsenic in solution, twenty-four grains even when left in contact for half an hour had not removed any considerable quantity, and it was not until thirty-six grains of the oxide had been used and left in contact for half an hour, that any very marked removal of the arsenic appeared to have been obtained.

Exp. IV. Being anxious to ascertain whether the oxide of iron was capable of removing arsenic from its soluble combinations, as well as from its solution in water, half a grain of arsenic in the form of arsenite of potassa was agitated with a quantity of the magma equal to about eight grains of the dry oxide. On applying the sulphuretted hydrogen test to the filtered fluid it gave a very indistinct trace of yellow. For comparison, one drop of a solution of arsenite of potassa, equal to only the sixtieth of a grain of arsenic, was tested in an equal bulk of water, and gave a much deeper yellow tinge. It thus appears that the oxide of iron has the power not only of removing arsenic from its solution in water, but also of decomposing arsenites,—an effect which must be considered to be due to a real chemical combination of the oxide of iron with arsenious acid.

The oxide of iron thus appears capable of forming an insoluble, and, as appears from other experiments, inert compound with arsenious acid.

[Dr. Maclagan then proceeds to say]

Having by these various experiments satisfied myself that the hydrated sesquioxide of iron in its different conditions has the power more or less of combining with arsenic and rendering it insoluble, I instituted a series of experiments to ascertain if possible with more precision in what proportions the oxide should be employed to remove the arsenic completely. For this purpose I prepared two solutions, the one of arsenite of potassa, the other of persulphate of iron, of such strengths that an equal bulk of each should contain respectively arsenious acid and sesquioxide of iron in atomic proportions. The solution of iron was purposely made with an excess of acid, in order that any yellow arsenite of iron which should be formed on mixing the solutions should be re-dissolved. The superabundant acid was then to be saturated by ammonia in excess, by which means I proposed to separate the oxide of iron in determinate proportion, and ascertain in what ratio it required to be employed, completely to remove the arsenic.

[And from several experiments he goes on to say]

We learn that the state of combination of the oxide of iron and arsenious acid varies remarkably according to the relative proportions of these two substances. When the proportions are as atom to atom, an arsenite of iron is formed, which is soluble

in ammonia and readily decomposed by boiling-water, and the solubility in ammonia is increased when the arsenic is in the ratio of two proportions to one of iron. When the oxide of iron is to the arsenic as three or four to one, the compound is still partially soluble in ammonia and readily decomposed by boiling water; but when the iron is further increased in quantity, as when the ratio is eight or twelve to one of arsenic, not only is all the arsenic removed from the fluid, and the precipitate insoluble in ammonia, but the iron retains the arsenic with such force that it is hardly possible to separate it even by the affusion of boiling water.

[This interesting paper is ended by the following conclusions]

That the hydrated oxide of iron is a real chemical antidote to arsenious acid, and that when it removes arsenic from solution and soluble combinations it acts by chemically uniting with it.

That it appears much better fitted for removing arsenic, when it has been precipitated by ammonia than when precipitated by potash: and that it answers better when in the state of a moist magma, than when dried at 180°, even though, when thus dried, it still retains a considerable per centage of combined water.

That thus there appears to be good grounds for believing that in the experiments on animals, and the cases in the human subject, in which it has been found to arrest the action of the poison, that it acted as a chemical antidote and not as a mechanical protection to the stomach; that the large quantities which have been found necessary are required not to protect the stomach mechanically, but to render the poison chemically inert. That, as far as chemical evidence goes, at least twelve parts of oxide prepared by ammonia and moist are required for each part of arsenic, and that when the oxide has either been precipitated by potash, or been dried even at a low temperature, that about three or four times larger quantities are requisite.

Edinburgh Med. and Surg. Journal, July 1840, *p.* 106—112.

The seven following cases seem to confirm all that has been stated with regard to the hydrated peroxide of iron being the safest, the surest, and the most easily administered of all the antidotes yet discovered for poisoning by arsenic.

Charlotte Leuz, 33 years of age, was taken suddenly ill shortly after dinner. M. Puchelt found her exhibiting all the symptoms usually attending a case of poisoning. There was violent vomiting, accompanied by acute spasms in the region of the stomach, pale face, prostration of strength, small feeble pulse, &c. She said she had dined at the house of a mason of the name of Bauer, with three young children, and that, about a quarter of an hour after dinner, she had felt herself so ill that she was obliged to leave the house.

M. Puchelt immediately ran to Bauer's house, and found the three children lying on the floor, with sunk features and expression of great suffering. Their respective ages were fifteen months, three years and a-half, and five years and a-half. The youngest, which was yet at the breast, had taken but a few spoonfuls of the poisoned soup, and was not so violently affected as the rest. The others had partaken largely of it, and had vomited several times. The father, who had swallowed about two platesful, had returned to his work, but was soon forced to leave it, on account of acute abdominal pains. Severe vomiting soon came on, attended with spasmodic pain in the region of the stomach, with pale sunk countenance, feeble pulse, and great depression.

M. Puchelt learned that the woman Leuz had put by mistake into the soup a spoonful of rat-poison instead of flour. The rat-poison was prepared with flour, sugar, and arsenic, and had been left carelessly lying in the press. A large spoonful of the hydrated peroxide of iron was immediately administered to Bauer, and a smaller quantity to the children. He administered a similar dose to the woman Leuz.

Five minutes after the administration of the first dose Bauer vomited, when a second dose was given, soon after which he became more calm. The three children also ejected by vomiting the first dose, but the two youngest fell asleep a short time after the administration of the second. A third dose was given to Bauer after the lapse of a quarter of an hour, soon after which he passed a greenish-yellow stool. The spasmodic pains, and general uneasiness abated after this very considerably, and his colour became more natural.

The woman Leuz also vomited the first dose, but retained the second; shortly afterwards she had also a third dose, and, as she still complained a good deal in the evening, a fourth

dose was administered. The eldest of the children, who had taken least of the antidote, was also complaining of uneasiness and pain, and was forced to take another dose of the hydrated peroxide of iron.

Next day Bauer was able to return to his work. His two youngest children were also well; but the eldest child, as well as the woman Leuz, still complained of uneasiness and occasional pains in the abdomen, and suffered much from palpitations of the heart. In the evening a purgative was given to both, and in a few days they were restored to health.

Chemical analysis showed the presence of arsenic in the rat-poison, some of which still remained. Arsenic was also detected in the soup, as well as in the matters vomited. The matters which were rejected after the administration of the hydrated peroxide of iron were also carefully examined, and the arsenic was found to have united with the iron, and to have formed the arseniate of iron.

In another instance two children of 8 and 12 years of age, added by mistake a half spoonful of rat-poison to some sour kraut, which they recognized to be arsenic, but too late to prevent themselves suffering from its effects. They were shortly seized with all the symptoms of poisoning. Six hours after partaking of the poisoned food, the hydrated peroxide of iron was administered, and was soon followed by a complete cure.

Edinburgh Med. and Surg. Journal, July 1840, *p.* 562.

79.—ON THE PRESENCE OF IODINE IN COD-LIVER OIL.

By M. Gmelin.

The oil prepared from the liver of the cod-fish has of late been extensively employed in practice, both in France and Germany, and the list of diseases in which its use has been found beneficial has been very much extended. The attention of chemists was, therefore, directed to this oil, to ascertain, if possible, the principle upon which its efficacy as a remedy depended. Several years ago, Dr. Kopp, of Hanau, conjectured that it contained iodine; and in 1806, Hopfer de l'Orme ascertained, by chemical examination, that this conjec-

ture was well founded. And, in 1837, M. Haussmann announced that, in one specimen of the oil, he had detected the presence of iodine. His experiments were subsequently repeated by others, but no iodine was detected in the oil subjected to examination. It was, however, afterwards ascertained that the oil in these last instances was adulterated, so that no conclusions could be drawn from them as to the presence or absence of iodine.

M. Gmelin was one of these unsuccessful experimenters; but, on repeating the experiments with pure cod-liver oil, he easily detected the presence of iodine. He operated on 60 drachms of the pure oil, and obtained a saline mass, which, when acted upon by sulphuric or hydrochloric acids, struck a violet colour with a solution of starch, and had all the other usual reactions proper to a solution of iodine. When some of this saline mass was heated in a tube with peroxide of manganese and sulphuric acid, the violet vapour of iodine was at once apparent, and stained paper, which had been dipped in a solution of starch, of a blue colour.

M. Gmelin obtains the saline mass most easily by saponifying the oil with potash, neutralizing with sulphuric acid, filtering, and crystallizing, when the sulphate of potash is got rid of. The residuary liquor is evaporated and calcined. Alcohol removes the salt of iodine from the other saline ingredients, and, on subjecting this to examination, the presence of the iodine is easily detected.

There is then every reason to believe that the cod-liver oil owes its efficacy to the presence of iodine; a fact which is sufficient to explain the high estimation in which it is held by some northern nations, and now, in many parts of Germany.

Journal de Pharmacie,—and Edinburgh Med. and Surg. Journal, July 1840, *p.* 251.

[This and the following article may be considered an interesting appendix to the article on the same subject at page 36 of our first number. Although iodine may have been discovered in this oil, we think with Dr. Taufflied that it exists in too small a quantity to be attended with the benefit which different writers have shown to accompany its use; and we cannot but consider Mr. Donovan's opinion as being the most correct, viz. that "its therapeutic qualities depend in some measure on its

power of modifying the digestibility of the food, of rendering the whole mass more easily assimilable, &c."

In a short but interesting paper in the July number of the *Dublin Journal of Medical Science,* this able chemist has given us his opinion of this remedy more particularly. After giving an account of some of the cases mentioned by Dr. Taufflied, he says]

I now proceed to describe the method by which I have obtained this oil, and to notice some circumstances, without attention to which I conceive that the internal use of it may produce some disturbance of the constitution. At all events we must lessen the repugnance which most persons would feel to the swallowing of fish oil, by procuring it free from all disgusting qualities so far as relate to smell, taste, and colour.

Every one knows that the livers of fish contain a great quantity of oil, deposited in cells. In all fishing villages on the sea coast a part of the occupation of the fishermen is the extraction of the oil. The livers, contained in an iron pot, are heated on the fire until their substance is broken down: the oily pulp is then thrown into a canvass bag, and drained with pressure. The *mare,* which remains in the bag holds much of the oil absorbed. A second heating and pressing separates much of it, but the produce is dark-coloured and strong-scented. Even after this, some of the oil is retained. The portion lost will be much smaller in quantity if the livers had been previously allowed to run into partial putrefaction: but in this way of proceeding, quantity is increased at the expense of quality, for the oil procured has a very bad smell. It is in this state that cod-oil is generally met with, and it is one of those known in commerce under the name of train-oil. The livers of all other fish are also added in the boiling of British train-oil, and the fat of the porpus, caught on some parts of the western coast of Ireland, contributes abundantly to the local produce. Common train oil is always in a state that indicates the putrescence of the materials from which it was procured, as well as the use of a high temperature in the process of extraction.

[After cautioning us to avoid too great a heat in the making of the oil, and especially not to allow the cods' livers to become partially putrescent before proceeding to extract the oil in hopes of procuring a larger quantity, he proceeds:]

The preceding facts and considerations shew that some caution ought to be employed in the manufacture of such train-oil as is intended for medical use, and that all kinds of it are not to be used indiscriminately. We must sedulously guard against putrefaction and charring. I have made trials of the temperature, adequate to the extrusion of the oil, without any ill effect on its taste or its capability of resting lightly on the stomach, and find that the best oil is afforded at 192°.

I proceed to describe the process. Take any quantity of livers of cod, throw them into a very clean iron pot, and place it on a slow fire, stir them continually until they break down into a kind of pulp: water and oil will have separated. When a thermometer plunged in the pulp will have risen to 192°, the pot should be taken from the fire, its contents transferred to a canvass bag, and a vessel placed underneath. Oil and some water will run through. After twenty-four hours, separate the former by decantation, and filter it through paper.

This oil, thus prepared, is of a pale yellow colour; its smell is weak, and resembles that of a cod boiled for the table when in excellent condition. Its taste is bland, by no means disagreeable, and as might be expected is totally free from rancidity. It is very liquid. Its specific gravity in my trials was 0.934, although in all the published tables of specific gravities it is stated to be 0.923. In cold weather it deposits much stearine, and this ought not to be separated.

No objection can be raised against the internal use of this oil on the grounds of delicacy. Let it be remembered that the cod's liver, (the chief ingredient of which is the oil) is itself a delicacy: that it enters into a popular sauce used with the fish; and that it is cooked into several forms for the table. That it is nutritious, we have abundant evidence from the analogy of other fish-oils on which whole nations to a great extent subsist and are well nourished. Perhaps its therapeutic qualities depend in some measure on its power of modifying the digestibility of the food, of rendering the whole mass more easily assimilable, and of bringing it to that state which is best adapted for the nutrition of persons in the particular condition of health for which this oil is proved to be a remedy.

Thus, in preparing cod-oil fit for medical purposes, three chief things are to be attended to: the livers must be perfectly healthy; they must be as fresh as possible, the least putres-

cency being injurious; and the heat at which the extrusion of the oil is effected must not exceed 192°.

Dublin Journal of Medical Science, July 1840, *p.* 359—365.

80.—ON THE HYDROCYANOFERRATE OF QUININA,

A FEBRIFUGE OF GREATER POWER THAN THE SULPHATE OF QUININA.

By M. Donovan, Esq.

[It is well known that the sulphate of quinina as well as most other remedies often fails in the treatment of intermittent fever. When this is the case it is well to remember that there is another remedy not hitherto much employed in this country, but especially used and recommended by Signor Bertozzi, of Cremona, and Dr. Zacarelli, who have found it to succeed in those cases especially where the sulphate has failed.]

The following is given by Bertozzi as the most economical process for obtaining it:—One part of sulphate of quinina is to be triturated in a glass mortar to an impalpable powder. A part and a half of ferruginous prussiate of potash, previously dissolved in six or seven parts of distilled water, is to be mixed by careful agitation, and the whole exposed in a flask to heat, stirring the mixture frequently, until it arrives at the boiling point. In proportion as the liquid becomes transparent, there is precipitated to the bottom and sides of the flask a substance of a greenish-yellow colour, having an oily consistence. Having then decanted the liquid portion, this substance is to be washed with distilled water, which will separate some sulphate of quinina that had not been decomposed, along with some other matters. Having accomplished the washing, and poured off the waters, the product is to be dissolved in very pure alcohol at 100° of Fahrenheit. The solution is to be filtered: the liquor which passes becomes muddy, and when evaporated, leaves a mass, confusedly crystallized in needles, the weight of which corresponds to three quarters of the sulphate of quinina employed. This is the *hydrocyanoferrate of quinina.*

The hydrocyanoferrate of quinina, when in small fragments, is of a pea-green colour; its taste is intensely bitter; it dissolves

in cold, but better in hot alcohol, and is precipitated almost entirely from the solution by water. In prescription, it would be an error to promote its solution in water by means of dilute sulphuric acid, as is done in the case of sulphate of quinina; the salt would be decomposed by this acid, and the solution would become blue. It ought not to be prescribed with tincture of cinchona, and consequently not with infusion or decoction. The dose given by Doctor Zaccarelli, was equal to three grains and a half troy, repeated according to necessity.

Although this febrifuge is precipitated by water from its alcoholic solutions, it separates in the state of so fine a powder, and remains so long suspended, that it will answer for exhibition very well in this state. The following formula will be found convenient:

℞. Hydrocyanoferratis Quininæ grana quatuor, spiritûs rectificati drachmam. Solve. Adde Aquæ, vel,

Misturæ Camphoratæ drachmas septem. Misce fiat haustus, ut res nata sit, phialâ prius agitatâ, sumendus.

In pills

℞. Hydrocyanoferratis Quininæ grana viginti quatuor, Mucilaginis gummi Arabici q. s. fiat massa quam divide in pilulas duodecim.

These pills will be of a proper size, and two of them will constitute a dose; to be repeated according to the discretion of the prescriber. I believe that the liquid form is preferable to the pilular, unless under peculiar circumstances.

It is a remarkable fact, that a medicine possessing febrifuge power superior to that of sulphate of quinina, should not have found its way into the practice of the physicians of this country; this indeed is not the only instance, in which the contributions of scientific pharmacy to the healing art, have been neglected in the British isles. My duty, however, terminates with submitting the article to the consideration of the medical public.

Dublin Journal of Medical Science, July 1840, *p.* 440.

81.—STRYCHNINE IN NEURALGIA.

By Dr. Pidduck.

[Dr. Pidduck was first induced to try this remedy from the power which it undoubtedly has in many cases of epilepsy: and, as he supposed that many cases of neuralgia might be owing to the same pathological cause as paralysis, only that in one case the nerves of motion were affected, and in the other the nerves of sensation—he saw no reason why strychnine should not act beneficially in one case as well as in the other. He says]

It is to the utility of strychnia in another class of diseases—the various forms of *neuralgia*—to which I desire to invite attention. Mine was first directed to the employment of strychnia in a case of this description, from conceiving that neuralgia might be occasioned by a diseased condition of the nerves of sensation, similar to that which occasions one form of paralysis in the nerves of motion, viz., an injected state of the capillary vessels of the investing membranes of the nerves. That the loss of voluntary power in the one case, and the acute pain in the other, proceed from one and the same pathological condition—an alteration in the relative state, or a deviation from the normal relation, which ought to subsist between the capillary vessels and the nervous fibrils.

It is probable this injected state of the capillaries may be owing to the altered qualities of the circulating fluids, which occasion the loss of tone in those minute vessels; and hence their admission of the red particles of blood. The first case in which I tried the strychnia was in that of a maid-servant, who suffered from neuralgia of the infra-orbital branch of the fifth pair. The agony was dreadful. After a variety of means had been employed without any alleviation, strychnia, in the dose of a twelfth of a grain, mixed with sugar, was prescribed. After the third dose relief was obtained. The pain entirely ceased before a grain had been taken. In a few days the pain returned in a slighter degree; the medicine was resumed with the same good effect, and there has been no relapse.

[He then relates five other cases where different nerves were affected, and in which the *twelfth* of a grain of strychnine was

generally given three times a day, and invariably with success. In one case the infra-orbital nerve was affected, in another the sciatic, in the fourth case there were both neuralgia and loss of power in the arm and hand. Dr. Pidduck concludes his remarks as follows:]

These six cases are insufficient to establish the efficacy of the strychnia in neuralgia; but the result has shown the power of the remedy over painful, no less than over paralytic affections of the nerves; and it has been so far satisfactory as to entitle the strychnia, in minute doses, to a more extensive trial in this most distressing class of diseases. As in cases of paralysis strychnia has only been found of use where there was no organic lesion of the cerebro-spinal centres, so in cases of neuralgia, no hope of benefit from strychnia is to be entertained, where there is any mechanical cause of irritation affecting the nerve at its origin or along its course. The difficulty of ascertaining the existence of such a mechanical cause oftentimes is confessedly very great. The only dietetic restrictions are careful abstinence from any thing sour,—vinegar, hard beer, cyder, acescent wines, unripe and acid fruits, common salt in large quantity, and saline medicines.

The *modus operandi* of strychnia, besides its direct influence upon the nervous system, seems to be similar to that of all bitter tonics, increasing the appetite for food, promoting digestion, and as a consequence, occasioning constipation. But this is perhaps not to be regarded as a morbid condition, but as the effect of a more perfect digestion, and the absorption of a larger proportion of nutriment into the system.

It may be owing to the introduction of a larger quantity of perfectly assimilated chyle into the blood, that harmony is restored between the circulating fluids and the nervous system, and hence the benefit of the *diete blanche* in hysterical and other nervous disorders.

Medical Gazette, Aug. 7, 1840, *p.* 760.

82.—MEDICAL EFFECTS OF THE LIQUOR HYDRIODATIS ARSENICI ET HYDRARGYRI. By M. Donovan, Esq.

[In a previous number of the *Dublin Journal*, Mr. Donovan gave some account of a new chemical compound, consisting of

iodine, arsenic, and mercury; and the diseases in which it would be found beneficial, namely psoriasis, lepra, and lupus. He now presents to us the experience of some of the most eminent men in Dublin. Mr. Carmichael states thus:]

I have tried the liquor hydriodatis arsenici et hydrargyri, in five or six cases of lupus, and in one case of psoriasis, with decided benefit in all.

In one case of lupus, of ten years' standing, in which great deformity had been occasioned by the disease on the features of a young lady, on whom all the usual remedies had been tried, it produced most decided benefit, and seemed to put an immediate check to the progress of the malady. She is not yet perfectly well, but sufficient advantages have ensued to promise recovery.

In one of my lectures, reported in No. 61 of the Dublin Medical Press, I stated the case of a man who had lost a great part of the vomer, and in whom much deformity had consequently ensued from an obstinate attack of lupus, who in the course of a few weeks so far recovered, as to be discharged from the hospital apparently well. I perceive there has been no relapse of the disease, as he was told to return to the hospital should any suspicious symptoms make their appearance.

In another case, of a respectable shopkeeper, in —— street, in whom the nose was affected, and not only the turbinated bones but the vomer had exfoliated, a perfect recovery took place after a three months' perseverance in the remedy, during which he was not prevented from attending to his usual occupation.

In the case of Mr. ——, affected with psoriasis, although the disease had existed for years, most decided benefit generally followed the use of the preparation in question, so that nothing but discoloration of the skin remains where scaly spots were formerly manifest. Some other instances of psoriasis and lepra also occurred, in which benefit followed its use, but we are still trying it, in similar cases to those I have detailed, in the Richmond Hospital, and you shall know in due time the result.

[Dr. Graves then relates the following very striking and inveterate case.]

Mary Cullen, a married woman, aged 60, had been affected with psoriasis for fifteen years; the disease, at first mild and

confined to a few parts of her body, gradually extended over almost the whole surface of her skin; and when she was admitted into Sir Patrick Dun's Hospital, it presented all the marks of a most inveterate affection. On the tenth of November she commenced the arsenical compound, taking daily three draughts, each containing half a drachm of the liquor. After some days the medicine was discontinued, as it disagreed with both the stomach and head, but it was shortly afterwards resumed in smaller doses; and when the patient's constitution had become accustomed to it, the dose was gradually augmented, and finally she took half a drachm of the liquor four times a day for about two months, with the exception of two weeks, (at different periods,) during which the above-mentioned symptoms caused its exhibition to be intermitted. The effects of the remedy exceeded my most sanguine expectations, for it caused an almost total disappearance of the cutaneous eruption; it is true that after the medicine had been for a short time discontinued, the eruption again began to increase, and consequently we were once more compelled to resume the use of the arsenical compound. Unfortunately my period for superintending the clinical wards of Sir Patrick Dun's Hospital expired shortly afterwards, so that the experiment was left incomplete; it had, however, lasted long enough to leave no doubt in my mind as to your remedy being a powerful agent, of most useful application in chronic diseases of the skin.

[Dr. Irvine's case is the more interesting, not only on account of the virulence of the disease, but also because he had tried in different cases the separate ingredients of the liquor hydriodatis arsenici et hydrargyri without their having gained his confidence. In relating his case he says]

On examination, I found his legs and arms thickly covered with large spots of psoriasis, much inflamed and very itchy. He said they were increasing rapidly in number, and that some had made their appearance on his body and forehead during the last few days.

I directed that he should be blooded to twelve ounces, and ordered him some aperient medicine which he was to continue for a week. These means afforded him some relief; the eruption was less itchy and less inflamed. I directed him to continue the aperient medicine, and to take twelve drops of liquor potassæ three times daily.

It would be tedious to relate the entire history of this case, it is sufficient to say, that he took various remedies, Dulcamara and Plummers' pill among the number, without any benefit, unless temporary relief from itching.

From the experience of many cases which I had treated without permanent benefit at the Maison de Santé, with Fowler's solution of arsenic, iodine, and mercury, separately administered, I was inclined to doubt their efficacy; I therefore determined to try the compound of these three, which you, in conversation with me about this time, had mentioned. My patient had now been upwards of three months under treatment, and to say the truth was little the better for all the medicine he had taken. He was most anxious to try any thing I could recommend, and this anxiety was most fully participated in by his wife, who had now been banished upwards of four months *de thoro marito*. On the 11th of February we commenced the solution, on which day I gave you an opportunity of seeing this gentleman, and examining his skin, in order that no doubt might exist as to the extent the disease had acquired.

He took a draught containing ʒ ss. of liquor hydriodatis arsenici et hydrargyri three times a day from this date to the 28th April. Twice during that period I found it necessary to stop the medicine for two or three days, and to give an opening draught, from his having complained of headache and sickness of stomach.

On the 28th of April you again examined him, and the disease was quite cured, nothing remaining but a stained appearance of the skin. It appears then that during the period mentioned he took 114 draughts: the total quantity of the liquor taken was seven ounces and one drachm; and when we calculate the quantity of white arsenic contained in all, we shall find it to be about seven grains, with fourteen of protoxide of mercury, and forty-four of iodine acidified.

Mr. Cusack states a new and different application of the arsenico-mercurial compound, which he employed with considerable success. He found that venereal eruptions rapidly yielded to scruple or half drachm doses three times a day, that is to *one quarter of a grain* of protoxide of mercury, and one-eighth of a grain of arsenic, or thereabouts, in the twenty-four hours. This indeed is a very small quantity of mercury to effect a rapid cure with: no one will deny, that the less of it

that will answer the purpose the better for the patient: and here again we perceive the effect of chemical combination, assisted no doubt by solubility. Mr. Cusack writes :—

" I have unfortunately omitted to make notes of the cases in which your valuable remedy, the liquor hydriodatis arsenici et hydrargyri, was administered, and am only able to state generally that I have used it freely in secondary venereal eruptions, both papular and scaly. I found the eruptions yield rapidly to its administration in the dose of one scruple to two, three times each day. In two instances the mouth became tender, and a slight salivation followed: but in no case have I observed any unpleasant consequence, even when taken in larger doses."

[The following case was under Sir Henry Marsh, and is reported by Dr. Burton.]

James O'Brien, æt. 12, admitted September 14, 1839, into Steevens's Hospital, under Sir Henry Marsh, labouring under a disease having the character of impetigo figurata, of strumous origin, covering the face, chest, arms, and thighs; but particularly well marked at the flexures of all the joints. Has been subject for many years to chronic bronchitis, with severe paroxysms of asthma. Curative means were employed, attended with more or less success; but whenever a mitigation of the cutaneous affection occurred, the cough and asthma returned with violence. Means having been employed to alleviate the bronchitic affection, Sir H. Marsh considered this to be a suitable case for an impartial trial of the solution of arsenic, mercury, and iodine, (brought before the profession and prepared by Mr. Donovan,) with a view to the removal of the skin affection. The dose administered was fifteen minims twice a day, increased gradually to one scruple, and finally given in half drachms. This mode of treatment was cautiously pursued for somewhat less than a month, with a gradual amendment of the cutaneous disease, which entirely disappeared, without aggravation, but rather amendment of the bronchial irritation. After a short stay in the hospital, the disease reappeared with all its former characters, and again yielded to the same treatment. It reappeared a third time, and the remedy was exhibited in larger doses, and steadily increased until the patient was taking half an ounce of the preparation during the twenty-four hours, in divided doses. Its use was now attended with very mild insali-

vation, as well as gradual and total disappearance of all the symptoms both cutaneous and pulmonary. After remaining a short time in hospital he was recommended to go to the country, and left the hospital very much improved in his general health.

Dublin Journal of Medical Science, Sept. 1840, *p.* 98.

83.—PNEUMONIA TREATED WITH SPIRITS OF TURPENTINE.

By James Martin, Esq., Mayfield, Portlaw.

[Mr. Martin relates the case in which he was so successful, by means of this remedy, as follows:]

I was called on this day (May 3rd, 1840,) to visit Mary Slattery, aged 25. I found her in an advanced state of pneumonia —severe dyspnœa—respiration 40—pulse 120—a short hard cough, accompanied by dark brick-coloured sputa—tongue white, loaded—bowels confined—dull sound on percussion over the entire of the thorax, excepting a small space, of two inches in diameter, beneath each clavicle. Here the respiratory murmur, which was elsewhere absent, was of a loud mucous character. She had been attacked six days before with rigors, and pains in her chest, and having been treated solely with whiskey punch *to drive out the cold,* her present state was extremely alarming.

[Bleeding and calomel were of no avail in arresting the disease—the pulse rose to 140, the lips and cheeks were livid and eyes sunken, with slight tracheal râle.]

Thinking the patient so near death, that it would be fruitless to wait for the action of mercury, and at the same time wishing to afford her any chance that remained, I determined to have recourse to brisk doses of turpentine, which I had seen used with success by my friend, Dr. Mackesy, of Waterford, in cases of pneumonia which resisted mercury. I, therefore, prescribed the following mixture:—

℞. Spt. terebinthinæ rect., ʒ ij.; Vitelli ovi dimidium.; Aquæ rosarum, ʒ vss.; Tinct. opii., ʒ i.; Fiat mistura cujus coch. duo magna sumantur 3tia q. q. hora.; Emplast. lyttæ sterno.

May 5th. I found the patient much easier—respiration 40, less laboured—the cheeks have lost their livid hue—but the lips are still of a dark purple—pulse 118, softer, and fuller—tongue still loaded—she had six copious watery stools during the night, with a copious secretion of urine—two inches below the clavicle, there is an audible and distinct crepitating râle—sputa still dark coloured—blister vesicated well—she has finished the mixture—complains of slight strangury.

To have the mixture repeated, camphor mixture being substituted for the rose water.

May 6th. I was surprised to find an extraordinary improvement since yesterday—respiration 34, free—slept well during the night—her countenance resuming its natural appearance—the crepitating râle can be heard as far down as the right mamma, and in the left axilla—expectoration profuse, but slightly streaked with blood—frequent watery discharges from the bowels complains very much of pain from strangury.

Dublin Medical Press, Sept. 2, 1840, *p.* 150.

[The patient recovered rapidly and without relapse.]

84.—THE ESSENTIAL OIL OF VALERIAN,

A REMEDY IN NERVOUS AND HYSTERICAL AFFECTIONS.

By W. R. Gore, Esq., Limerick.

[The valerian root is no doubt a valuable remedy, but owing to the length of time which frequently elapses before any good effects are produced, and the large quantity which has to be given, we hail with pleasure any substitute; and this we have in the essential oil, according to Mr. Gore.* Mr. G. proceeds as follows to relate his experience and views of this agent:]

In as much as my own experience is concerned, I can say that the oil of valerian is a powerful remedy, to relieve or remove those functional derangements which arise from lesions of innervation, existing independent of organic alterations—when such

* This essential oil, was, we believe, first imported into Ireland by Mr. Stevenson, of the Limerick Medical Hall, and may at any time be procured from him.

states are unaccompanied by a partial or general plethora, and do not derive their existence from acute inflammation; and that its effects may be much increased by the judicious admixture of other appropriate remedies adapted to existing complications of derangement—as, for instance, its combination with the *citrated aromatic wine of iron** in chlorosis, accompanied with hysteria, or in any of those anœmic conditions of organs or of the system, which so frequently give rise to complicated derangements of innervation, whether these arise from loss of blood, or from a primary defect in the process of sanguification.

On the other hand, where hysteric symptoms arise out of uterine or gastro-enteritic derangement of *a sthenic character*, or from any *similar* appreciable disturbance, such causes may be subdued by appropriate means, before the balance of harmony of the impaired functions be attempted to be restored, by valerian, or by tonics, or by any other means; and in this state the first proposed is a powerful means of accomplishing the end in view.

Again, there can be no doubt whatever but that when the secretions continue long impaired, from whatever form of organic disturbance, that the existence of this state is frequently the source of a reflex action on the nervous system, by which its functions continue disturbed, though the original cause may have long since subsided—and this would appear to be the result of the effects so produced upon the volume and character of the general circulation. In such a relation of things, the state of the secretions must, of course, be carefully attended to; and for the relief of the nervous disturbance, the valerian, I have cause to know, will accomplish its own part, more especially if assisted by judicious diet, appropriate exercise, and good air.

[He then relates the case of a well-known lady, and accompanies his remarks with the following practical observations.]

I viewed her case as one arising from a lesion of innervation of an adynamic character, out of which the other morbid phenomena arose—the diminution in the animal temperature, the absence of the pulse, and the general tremor, as the result of the circulation forsaking the periphery, for an impeded action in internal organs; and the result of the treatment entirely confirmed this view.

* See page 22 of this volume.

A jar of warm water was applied to her feet—warm flannel to the surface, and a tea spoonful of the following mixture, in a wine glass of water every hour, until relief followed:—

Mist. camphoræ.; Spt. ammon. aromat, a.a. ℥ ij.; Ol. ess. valer. gutt., xxv. M.

She got a little warm wine whey occasionally.

After the second tea-spoonful of the mixture, the tremors entirely subsided, and on the surface becoming warm, soon after, she took the third. I removed the jar and hot flannels lest she should be weakened by too much perspiration from the reaction. This was about three o'clock in the day, the remainder of which was undisturbed by suffering. A restless feeling of langour continuing, she got—

Some warm beef-tea, and at nine o'clock a pill containing the eighth of a grain of morphine, one drop of oil of valerian, with some extract of hyosciamus.

She slept well, and when I called in the morning, I found her in the parlour, quite enlivened at the idea of being so much sooner well of this attack than of former ones, though she considered it more severe.

[Speaking of another case, he says]

Soon after this time, I was called to the country to see a lady of wealth and importance. who laboured under many distressing nervous symptoms—disturbed rest, irregular bowels, impaired digestion, headaches, a partial palsy of the left arm, with nervous twitchings in the left side of the face, colicky pains across the abdomen, with much inflation of the bowels. Throughout the continuance of her illness the catamenia continued undisturbed. She was of a spare habit of body, and every indication of plethora absent. The dyspeptic symptoms were those which first called for attention, out of which, I conceived, the nervous disturbance arose: but long after her bowels became regular, the evacuations healthy, and the appetite good, *her nervous symptoms remaining unaltered*, she was subjected to the influence of electricity, and of the following mixture she took a small tea-spoonful in half a tumbler of porter twice a day:—

Rhubarb root, sliced, ʒ iij.; Chirayeta, ʒ ij.; Coriander seeds, bruised, ʒ iiss.; Bradishes' alkaline solution, ℥ viii.

This was allowed to stand for ten days, and on being filtered, 16 drops of oil of valerian were added, which made a very good antacid, anti-spasmodic, tonic, aperient mixture, and from the use of which she derived most signal benefit. When this was out, all remedial measures were discontinued for a time. In consequence, however, of some existing nervousness, she was desirous of taking the valerian in the shape of pills, and the following mass was ordered her, one of which she took at bed hour every night.

Quininæ, ℈i.; Moschii gr, i.; Pil. aloes comp. ʒss.; Ol. ess. valer gutt. x. M. et divide in pil. xij.

From these she derived much benefit. They were again ordered, substituting ol. ess. carui. for the ol. valerianæ, in consequence of the latter being at that time a shilling a drop. The effects not being the same, she had to recur to the valerian, and in about six weeks all her symptoms subsided.

[It will be observed that in this case Mr. Gore used the *Chirayeta*, and as this remedy is not generally known, we would just remind the profession that in many cases of indigestion, and especially when accompanied with an unpleasant giddiness after eating, this will be found a valuable remedy. The following is a good way of preparing and taking the infusion of chirayeta:—Add half an ounce of chirayeta to one pint of boiling water; let it stand closely covered for twelve hours, and then strain it through a fine sieve, and pour it into a wine bottle in which has been put half an ounce of the subcarbonate of soda: this to be well shaken together. A wine-glassful of the infusion to be taken three times a day, one hour before each meal. A larger quantity of the above not to be made at once, as it does not keep good for many days. The herb may be procured at Messrs. Butler & Co.'s, herbalists, Covent Garden Market, opposite corner to Henrietta Street.

Mr. Gore ends his observations as follows:]

In the abdominal pains, and in that pain of the side peculiar to many young females, a combination of aloes, assafœtida, and oil of valerian, proves exceedingly advantageous.

I had one case of chorea, which, after a little attention to the bowels, derived inestimable benefit from a single drop of the oil, in a lump of sugar, three times a day. After about three weeks this young woman was quite restored. It occurs to me

that this would be a very suitable remedy to drop into a carious tooth accompanied with pain, where inflamation of the fang was absent, but having no opportunities to test this since the idea occurred to me, I can only give it as a suggestion.

Dublin Medical Press, Sept. 2, 1840, *p.* 151.

85.—CAN THE COW BE IMPREGNATED WITH THE HUMAN SMALL POX?

[THE answer to the above interesting question is to be found in the late very interesting researches of Mr. Ceeley, published in the last volume of the Transactions of the Provincial Medical and Surgical Association. In the report on this subject, we are informed that Mr. Ceeley]

Resolved to attempt to ascertain whether he could, by inoculation, impregnate the cow with human small-pox. Twice he has succeeded in accomplishing this important object after many previous fruitless trials. His experiments were conducted in the presence of five medical men and one veterinary surgeon. He produced five vesicles on the cows, from which source several hundred patients have been vaccinated, who have exhibited all the phenomena of vaccination in the most perfect form and complete degree; there was no attendant eruption, nor any thing that could lead him to suspect that he had not in this manner propagated the genuine *Variolæ Vaccinæ*. He kindly transmitted portions of this lymph to the President of the Section, who immediately committed it to the care of Mr. Coles and several other gentlemen, in whose hands it produced the regular vesicles, which in every respect corresponded with those so beautifully delineated by Dr. Jenner, in his first publication. This circumstance forcibly arrested the attention of every one who saw the vesicles, and that too, in several instances, though the source whence the lymph was derived was not known. The correctness of the vesicle formed by it, exhibits a marked contrast to that which we have seen produced by other virus now in use; and we fear that the local as well as general disturbance occasioned by the latter, so far from being a source of protection, will be found to be the reverse.

On the 1st of February, 1839, he inoculated with small-pox matter *(variola discreta)* of the seventh or eighth day, three young heifers; a fourth was at the same time vaccinated. The reporters limit their account of what happened to the first.

Mr. Ceeley made seven punctures and introduced fourteen points near the left *labium pudendi,* and on the same day inserted two setons with matter from the same object. On the ninth day after this process, he vaccinated the same animal on the right *labium pudendi,* with fifth, sixth, and seventh day's lymph from a child, in seven punctures with fourteen points; and below the pudendum in four punctures with eight points. On the tenth day after the insertion of the variolous matter, one of the punctures near the posterior margin of the left *labium pudendi* had assumed the form of the natural vaccine vesicle. By gently removing the central irregular crust, and carefully puncturing the cuticle, he was able, in the course of an hour, to charge thirty-eight points with lymph, and on the same and subsequent days to use part of it on children and adults. On the thirteenth day the small-pox vesicle was more inflamed and florid; this was the fifth day after the insertion of vaccine lymph, at which time all the eleven punctures were converted into effectual vesicles; from these he took fine clear lymph, and used it on children and adults. Both the variolous and vaccine vesicles subsequently ran nearly a parallel course; so that on the twenty-sixth day of the former, and on the seventeenth day of the latter, the scars of both appeared perfectly similar.

To obviate objections which might arise from the insertion of the vaccine lymph on the ninth day after the inoculation with the variolous matter, Mr. Ceeley re-inoculated a sturk on the 15th of February with small-pox matter, of the seventh or eighth day, on the *labium pudendi.* He made eight punctures, which were deluged with the variolous fluid from capillary tubes. On the fifth day the four upper punctures were enlarged and elevated; the other four were less so. On the sixth day all presented the appearance of the vaccine vesicle. From one of them he took lymph with difficulty, and scantily charged thirty-nine points. On the eighth day he again took lymph from the vesicle opened on the sixth. On the ninth day the vesicles were enlarging, and he again opened carefully the first vesicle and charged twenty points. On the tenth day the four lower vesicles were increasing, and from them he charged twenty-seven

points. After this time the brown crusts appeared, and the disease gradually declined. This animal was subsequently inoculated both with variolous and vaccine matter, but no result followed.

The practice of inoculating the cow with vaccine virus taken from man was very early attempted. It is not to be overlooked that the difficulty of accomplishing this, is almost as great as that of inoculating the animal with small-pox. It succeeded, however, in the hands of Dr. Waterhouse, who, in 1801, impregnated one of his cows, and obtained from her a "crop of matter on the ninth day, which produced the disease in the human subject to perfection." Mr. Fox, of Cerne Abbas, who has paid great attention to this subject, and seen the disease, as well among the cattle as on the hands of the milkers, has also successfully vaccinated the cow.

The same experiments have been performed at Passy, in the neighbourhood of Paris; the lymph found there in 1836, among the cows, has been recently again passed through the animal, and this is called retro-inoculation. Mr. Ceeley, too, has often been enabled to communicate the vaccine disease from man to the cow. He has observed that good human lymph, when transmitted in this manner, loses some portion of its activity; it rises late, and produces smaller vesicles, but ultimately *after successive inoculations on man,* it resumes its activity.

The reporters rightly designate this a triumphant conclusion of an investigation of more than fifty years' duration, and the best monument to the sagacity of Jenner. They deduce from what has been done the following aphorisms, to which they entreat the attention not only of the profession, but of the public.

First, that cattle in many ages and different countries, have been afflicted with small-pox.

Secondly, that this disease among the inferior animals has simultaneously existed with the small-pox in man, and pursued its victims through every quarter of the globe; and that it exists at this time in Asia in a fatal and pestilential form.

Thirdly, that it appeared among the cattle in England in the year 1745, and again in 1770, and continued its ravages up to the year 1780; and that the local remains of this epizootic occasionally still show themselves with considerable severity.

Fourthly, that the casual transmission of this disease to the milkers in the dairies of Gloucestershire, and their subsequent

immunity from human small-pox, first led Dr. Jenner to the investigation of this singular affection, and ultimately to establish it as a substitute for the more pestilential and fatal form of the disease.

Fifthly, that when the disease appears among the inferior animals in a malignant form, it produces, by inoculation, a disease of similar severity in man.

Sixthly, that as man has received this affection from the cow, so likewise has the cow received it from man.

Seventhly, that the direct inoculation of the cow with human small-pox, has produced a mild and mitigated disease; and that such disease, reproduced by inoculation on man, accords entirely in its character, in its progress, and in its protecting influence, with the *variolæ vaccinæ*, as described by Dr. Jenner; thus irresistibly proving his fundamental proposition, that cow-pox and small-pox are not *bona fide* dissimilar, but identical, and that the vaccine disease is not the preventive of small-pox, but the small-pox itself,—the virulent and contagious disease being a malignant variety.

Medico-Chirurgical Review, Oct. 1840, *p.* 399.

[The reporters draw from Mr. Ceeley's observations the conclusion "that cow-pox and small-pox are not bonâ fide dissimilar, but identical, and that the vaccine disease is not the preventive of small-pox, but the small-pox itself."

Now as this view is entirely opposed by Dr. Gregory, physician to the London Small-Pox Hospital, we think it right to lay his views before our readers. It will be seen that this physician considers the pathology (but not the practice) of Jenner to be erroneous. He affirms that vaccination is not a kind of small-pox, but that cow-pock is a something which alters the human blood, and indisposes it to take small-pox, but it is not small-pox. Mr. Stuart of Kelso, is also of the same opinion, who says:]

Since 1816 small-pox has prevailed several times in Kelso and neighbourhood, giving me an opportunity of seeing much of the disease. In the autumn and winter 1834-35, it attacked a great number of individuals, vaccinated and unvaccinated, and from the experience thus obtained, I ventured to draw the following conclusions.—That vaccination affords but an imperfect protection from small-pox at all periods of life; that the

protection becomes more imperfect as the individual advances in life; and that, at the age of puberty, the influence of vaccination, (providing it has been had recourse to in infancy,) nearly ceases, but, at any rate, in the majority of cases at the age of twenty, vaccination ceases to exercise any protective power whatever.

In consequence of the adoption of these views it became with me a matter of consideration, whether or not vaccination ought to be repeated at certain periods of life. I thought it ought, and especially at the age of puberty. I have, therefore, regularly recommended it for the last twelve years, and have generally found, as might be expected, that secondary vaccination was successful, just in proportion to the time which had elapsed from the first operation,—cow-pox, in fact, modifying itself as it modifies small-pox.

I have had several satisfactory opportunities of verifying this in families, in which I knew the greatest care had been taken with the previous operation, and the result was such that I could, from the appearances of the pock, have nearly guessed the respective ages of the individuals thus revaccinated. In a family in this neighbourhood in January 1835, I revaccinated four persons at the ages of 14, 16, 19, and 20. In the first the modification was considerable; in the second less; in the third still less; and in the fourth there was as perfect a cow-pock as I ever saw, and it went through all the various stages quite regularly. There was a difference, too, in the progress of the pocks. The first came to a height on the fourth day; the second on the fifth; the third on the seventh day; and the fourth on the eighth day.

[Mr. Stuart then gives some important opinions of Dr. Gregory, who gives permission for his correspondence to be published. Dr. Gregory says]

Will revaccination protect, and for how long? The true answer I believe to be as follows: The value of revaccination is in one sense proportioned to the effect produced. If revaccination produces a full eight-day pock with areola, it stands *loco primæ vaccinæ*, and the individual may be said to open a new policy of vaccine insurance, dated from that period. On the other hand, if the revaccination produces little or no effect, (a mere irritated papula,) nothing is taken by the motion.

The individual remains in *statu quo ante* revaccination. But then comes the question; will a modified effect serve to fill up the measure of vaccine protection decayed during the preceding ten, fifteen, or twenty years? This is the pinching part of the question. My persuasion is, that you cannot thus multiply degrees of vaccine protection. Two imperfect vaccinations do not, in medical arithmetic, equal one perfect one; no,—nor three, nor four, nor twenty. Modified or imperfect revaccinations therefore, in my estimation, = 0; they are worth nothing. They irritate the arm, and that is all. The constitution is uninfluenced by them. I may be wrong in this, and I am ready to correct the error, if it can be shown to be error; but all my experience goes to this. The doctrine of proto and deuto-vaccinations will soon merge in that of trito, and ultimately (as time creeps on,) in poly-vaccination. Will a man be perfectly safe (that is to say) who is vaccinated (or subjected to vaccination) every year? Those who support the present fashionable theory and practice of revaccination will please answer this question.

I have now brought you to the point which I have been anxious to gain. I have never yet addressed any one, in writing, on this subject, and I now write to you on it, because I see that you have considered it well; that you have thrown off the trammels of Jennerian pathology, and are content to think for yourself. Observe, I say, Jennerian pathology, not Jennerian practice. I feel assured you do not view vaccination as a kind of small-pox. The term *variolæ vaccinæ* was incorrect in pathology. Cow-pock is a something that alters the human blood, and indisposes it to take small-pox. But it is not small-pox. A coating of gold secures our salt spoons from the action of chlorine; but gold is not chlorine. Small-pox after vaccination is not on a par with double small-pox. Small-pox after vaccination is a first attack of small-pox, and may be followed by a second some twenty or thirty years hence. Well, then, what is to be done to fortify the public mind in the matter of vaccine security? How long are we to go on thus showing annually or epidemically our practical distrust of vaccination? The sooner we come to a decision on the subject the better. There is one, and only one way in which this can be done. Not by revaccination, but by inoculation at distant periods from the date of vaccination.

[In the same correspondence Dr. Gregory states, speaking of the pathology of vaccination:]

Now as to the real pathology of vaccination. Jenner's theory must be given up, viz. that cow-pox is only small-pox in its mildest and most original form; that a man has cow-pox now instead of the small-pox which he had formerly; that small-pox occurring after cow-pox is analogous to small-pox after small-pox. These three positions, the foundations of Jenner's notions, are, I believe, entirely groundless and imaginary. The true pathology of vaccination is altogether different.

Now, vaccination has the extraordinary power of giving to the human body the singular property of resistance to the variolous effluvium. Vaccination is not small-pox, but just the reverse,—the antagonist principle.

What wonder, therefore, can it be, if time should demonstrate, that the power of resistance thus conferred, is confined within certain limits; as thus;—

1. The power of resistance is complete (both as to casual and inoculative admission) for the first ten years of life.

2. The power of resistance ceases in certain constitutions before it ceases in others.

3. The power of resistance given by cow-pox ceases *quoad* inoculation before it ceases *quoad* the casual (or infective) mode of access.

4. The power of resistance is diminished, by any great changes taking place in the human frame, whether brought about by puberty, or change of climate, or by a long fever; or lastly, by gradual and insensible changes taking place in the system.

There may be many more laws affecting the general principle of resistance given by vaccination hitherto unsuspected. I believe there are. I see daily facts inexplicable on any known principle. For I wholly throw out of consideration Jenner's fanciful notions of vaccination impeded by pre-occupation of the skin; of vaccination rendered imperfect by the virus being taken at too late a period; or the more modern notion, that too few vesicles are raised; or those few not developing a sufficient amount of constitutional fever. All this is mere unauthorised theory. Two or three good vesicles on the arm constitute vaccination. When small-pox subsequently occurs, do

not then reason *ex post facto*, and say the vaccination was faulty, but find out what are the laws which limit the principle of vaccine resistance.

Jenner set us all so wrong by his term *variolæ vaccinæ*, that it is really difficult to get out of the false (because so well beaten) track. If he had wanted a short expressive term, it should have been *vaccinia antivariolosa*. We should then have set ourselves to study how far the antivariolous power extended, and by what laws it is limited.

Edinburgh Med. and Surg. Journal, Oct. 1840, *p.* 381—389.

86.—OBSERVATIONS ON DIABETES.

By GEORGE H. BARLOW, M.A., & L.M.; Assistant Physician to Guy's Hospital, and Senior Physician to the Surrey Dispensary.

[THE views of Dr. Barlow and Dr. Maitland so nearly correspond with respect to the causation of diabetes, that we request the reader to turn to page 95 of our first number, before perusing the following very interesting observations.

Dr. Barlow has here not only clearly explained his views of the causation, but has also pointed out scientifically some important objects of treatment, and especially the employment of ammonia: with respect to the causation he says]

"Now, the urinary secretion," says Müller, "is the means of carrying out of the system decomposed and effete animal matter, such as urea and lithic acid (the essential components of the urine,) superfluous saline matters, and, either in an altered state or in their original condition, foreign matters which have accidently entered the circulation." To this I would venture to add, that it is worthy of notice, that in the human subject, and the carnivorous mammalia, both these essential components are highly azotized combinations; whilst in the graminivorous mammalia the place of the latter lithic acid is supplied by hippuric acid, a substance containing little more than seven per cent. of nitrogen: so that, of the great depurating organs of the body, the office of the lungs appears to be, to separate carbon in the form of carbonic acid. The liver removes carbon, hydro-

gen, and nitrogen, but chiefly the former; so that it may be regarded as in great measure co-adjutive or supplementary to the lungs, but as having a superadded function of its own: the kidneys, again, separate carbon, hydrogen, and nitrogen, but principally the latter (as well as superfluous water;) so that they are in some measure co-adjutive to the former, but have a superadded function of their own: the skin, again, is supplementary to all the rest, but particularly the kidney, and has an additional function of its own.

Upon this view of the subject, we should expect that the office of one of these organs may be wholly, or in part, performed by one or all of the others: and, accordingly, comparative anatomy teaches us, that in the different classes of vertebrate animals, the development of the liver increases in the same measure as the respiration diminishes; being at its maximum in fishes, at its minimum in mammalia; and having its mean amongst reptiles: whilst we learn from every day's experience, that when the bile ceases to be poured forth by the ductus choledochus, it makes its appearance in the urine.

The presence, therefore, in the secretion of one organ of a substance more nearly allied in its elementary composition to that of another organ, should rather be ascribed to a defective performance of function in the latter, than a perverted action in the former; or, in other words, the presence of a highly-carbonized product in the urine would indicate impaired function of any other excreting organ rather than of the kidney.

Hence the *a-priori* arguments to be drawn from the physiology of the kidney are opposed to the belief that the presence of sugar in diabetic urine is the effect of a morbid condition or action of the kidneys.

Again, what is to be inferred in reference to this subject from the pathology of other morbid conditions of the urine? or what do other morbid products indicate?

Not to encumber this communication, the object of which is more especially of a practical nature, with observations not bearing directly upon the subject before us, it will be sufficient for our purpose to remark, that of all the other morbid contents of the urine, there are none, except those which are component parts of healthy blood, the presence of which has been traced to disease of the kidney: consequently, the knowledge we possess of the pathology of other diseased conditions of the urine

affords no *a-priori* reason for ascribing the presence of sugar in the urine, which is never found in healthy blood, to disease of the kidney.

It appears, from the conclusions drawn by Woëhler from his researches, "that all soluble, and not gasiform matters, which do not suffer decomposition in the system, are got rid of by the kidneys;" whence it is evident, that sugar, being taken up into the blood, must necessarily appear in the urine. It has indeed been argued, that the quantity of sugar found in the blood of diabetic patients is not sufficient to account for the quantity in the urine. This objection can, I think, have little weight, when we consider how quickly many soluble substances, when introduced into the system, are expelled by the urine. Again, it appears that those matters which are prone to pass out of the system by any particular secreting organ are stimulants of that organ; as is seen in the stimulant action of the neutral salts on the kidneys: whence sugar, being present in the blood, and being separated from it by the kidneys, must necessarily increase the flow of urine.

There remains one other condition of the urine to be noticed; namely, the diminished quantity of urea. This deficiency is, however, by no means certain; as it has been called in question by several very able chemists: amongst others, by Mr. Kane. Indeed, I should be inclined antecedently to expect that it would be deficient in this disease; since nutrition and excretion being, in health, antagonist processes, it is not improbable that the diminution of the former by disease may induce a deficiency of the latter.

I think we can have little hesitation in ascribing the thirst and dryness of the skin to the continual abstraction of water from the system, owing to the diuretic action of the sugar. The hunger, again, appears to be the result of the emaciation, or rather atrophy; which is, in its turn, the consequence of the depraved condition of the nutrient fluid, the blood. The question, then, which remains to be determined, is, the origin of this alteration of the blood, and the probable seat of the morbid action upon which it depends.

The circumstance of the morbid ingredient being a highly carbonized substance might at first lead to the belief that either the lungs or liver, or both, were involved in its causation; and it is probable that they are more or less implicated: but the

fact, that sugar has been discovered by Mr. M'Gregor in the stomachs of diabetic patients in greater quantities than in health, even when such patients have been almost entirely restricted to an animal diet, affords a proof that the derangement in sanguification must take place when the nutrient fluid is in an earlier stage than that in which it is subject to the action of these organs; and that the primary disturbance may be traced to the primæ viæ.

In this disease the saccharine particles of the food are not changed in the stomach; whilst the starch, which most articles of vegetable diet contain in considerable quantities, not having its peculiar properties annulled, and its proneness to the saccharine fermentation being favoured by the warmth and moisture of the stomach, is converted into sugar, which, being readily soluble, is absorbed into the circulation.

It appears, then, that, owing to a deficiency in the assimilating powers of the stomach, a lower organic product, sugar, is taken up into the system, in place of a higher organic product, albumen. This lower organic product is inadequate to perform the duties of the higher; and is, according to laws already referred to, respecting the action of the kidneys, removed from the system by those organs.

If this view of the subject be correct, the next inquiry is, what are the inferences to be drawn from it, respecting the treatment of diabetes. The first is obviously one, the correctness of which has long been acknowledged, and confirmed by experience; namely, the avoidance of all saccharine and amylaceous articles of food; the latter of which, from their tendency to saccharine fermentation, are, I believe, productive of as much mischief as the former. I have, however, little to add to what is generally received upon this point, further than to insist on the advantages of the cruciferous vegetables as articles of diet; the use of which is not only in accordance with the view taken above, but has received the sanction of many experienced physicians. Not only do greens, broccoli, turnip-tops, sea-kale, water-cresses, &c., tend to obviate the loathing which is often felt by these patients when restricted to an animal diet, but they exert a decidedly beneficial influence over some of the symptoms: and it will be seen, in a case to be related presently, the discontinuance of the use of greens was always followed by increase in the flow of urine.

The next indication appears to be, to introduce into the stomach a highly azotized substance, and at the same time, by a diffusible stimulant, to exalt, if possible, the assimilating powers of that organ; both which ends appear likely to be attained by ammonia.

I have generally found that under the use of the sesquicarbonate of ammonia the function of the skin is generally restored; and although I have sometimes thought that it was aided by opium in bringing about this end, yet in some cases the same effect has been produced without the use of the latter.

Such exercise as the strength of the patient will enable him to take, and the use of a warm bath occasionally, where it can be obtained, are also valuable adjuvants. The accumulations which not unfrequently take place in the large intestines, and which are, I believe, but a consequence of the participation of the bowel in the general muscular debility, must necessarily impair those functions of the chylopoietic viscera which it must be our main object to restore. The union of a purgative with a tonic, which rhubarb affords, seems to point it out as the most eligible remedy in these cases: this I have generally exhibited, in combination with sulphate of potass; and aided its operation, if necessary, by castor-oil.

[The treatment of the following case in 1836, will serve as an example of the treatment usually adopted by Dr. Barlow. The name was Stanley, a shoemaker.]

His urine was sweet to the taste, and of sp. gr. 1.041. He was at first put upon the use of one grain of opium every four hours; some castor-oil being ordered occasionally, to regulate the bowels: the rules respecting diet, above laid down, being also enjoined.—At the end of five days his urine was much diminished in quantity, but the specific gravity increased to 1.044: he was also at that time in a state of great prostration, which was perhaps in some measure attributable to the opium. He was then ordered to take six grains of the sesquicarbonate of ammonia three times a day, in a draught containing one drachm of sp. lavend. comp.; and five grains of Dover's powder every night; by continuing which, the quantity of the urine was, at the end of eight days, reduced to twelve pints in twenty-four hours, and the specific gravity had decreased to 1.035: he

also perspired moderately at night, and the thirst was much abated. I now increased the quantity of the ammonia to eight grains every four hours; under the use of which, the quantity and specific gravity of his urine rapidly diminished; and at the end of six weeks he had so far recovered his flesh and strength, that he considered himself well, and left the Dispensary. At the end of five weeks, however, he again presented himself; stating that his former symptoms had returned. His skin was harsh and dry; and he told me that his urine rather exceeded two gallons in twenty-four hours. He had lost flesh considerably since I had last seen him; but he was not so much emaciated as when he first came under my care: his tongue was clean, but moist, and his breath had the odour of hay. He was treated in the same manner as before; and at the end of two months he was again discharged, apparently in good health; his urine being about three pints in quantity, without saccharine taste, and of specific gravity 1.020.—I ascertained that this man was in good health in the summer of of 1839.

"It is remarkable," continues Dr. Barlow, speaking of this case and another related by his friend, Dr. Golding Bird, "that in the first of the foregoing cases, although the effect of the opium was to diminish the quantity of the urine, the specific gravity of that secretion increased; the disease remaining, in other respects, unchecked: whence it is to be inferred, that that medicine exercises no control over its essential and more important symptoms. It is indeed of service in allaying the secondary irritation of the kidneys; which is frequently produced by the diuretic action of the sugar, and which adds to the general debility of the patient, and is evinced by the pain and weakness often felt in the loins. But when empirically administered, this drug may not only be useless, but even injurious: for in the second case, it is stated, that before the patient came under treatment, diminution in the quantity of the urine was always followed by headache and drowsiness; whence it is probable, that if the function of the kidney is suspended, and the sugar is not removed by them, it accumulates, in the circulation, in sufficient quantity to exert a depressing influence upon the system: and in such cases, the exhibition of opium would be doubly injurious, both by checking the secretion, by which a pernicious substance was being removed from the body, and also by introducing another narcotic poison in addition to

that already in operation. When, however, the formation of sugar had been checked by the remedies prescribed by Dr. Bird, the diminution in the quantity of the urine, so far from being attended by the unpleasant feelings before noticed, was accompanied by marked improvement in the general health of the patient."

Guy's Hospital Reports, Oct. 1840, *p.* 282—297.

[Mr. Clay, of Manchester, relates three cases of this disease in which the tinct. ferri mur. seemed to exert a very beneficial influence, and if the malady does not return, seemed to cure. The following mixture was prescribed and continued for six or eight weeks:

℞. Tinct. opii, ʒ jss; tinct. ferri mur., ʒ ji.; quinæ sulph., grs. vjii.; aquæ distil., ℥ vj.
Capt. ℥ j. ter die.

In the first case the urine was 9½ pounds daily, and highly charged with sugar.—*Lancet, Oct.* 10, 1840, *p.* 85.]

87.—CARBONIC ACID GAS, AS A COUNTER-IRRITANT.

By Dr. James Johnson.

[In a discussion in the London Medical Society respecting the nature and value of counter-irritation, Dr. James Johnson makes the following observations. He says]

While on the subject of counter-irritants, he would bring before the notice of the society one particular species of this remedy, which had come under his notice during the last two or three years, when he had occasionally been on the continent. He alluded to carbonic acid gas, applied either as a local or general external remedy. In some parts of Germany there were large peat-bogs, from which carbonic acid gas was evolved in very large quantities, and which being collected afterwards in reservoirs, was conducted by tubes into baths for general use, or into smaller tubes by which it could be applied to any particular part of the body. In the first mode of its application, the gas was admitted into the vessel from beneath, and slowly ascended until it filled the bath. The patient's body was en-

tirely immersed, his head being protected by a covering fitting close to the upper part of the bath, admitting the head only through an aperture in its centre. When the gas was locally applied, it was conducted in tubes of various diameters, and with such variety of force as the case might require. He had tried the remedy both locally and generally; it acted in both cases as a powerful stimulant. Its first action was the production of a momentary sensation of cold, which was followed by a feeling of heat, which, when the gas was applied locally, was sometimes so intense as to be scarcely tolerable. Perspiration succeeded to these phenomena. The application of carbonic acid in this manner was stated to be of great benefit in a variety of chronic diseases, in which there was no trace of inflammatory action. It was beneficial in tic-douloureux, atonic gout and rheumatism, and similar diseases. If the reports were to be credited, it also exerted a remarkably powerful influence upon the reproductive organs. Females who for years had sighed in vain for progeny, became fertile in a very short space of time after this gas had been applied in douches to the uterus, by means of a pipe introduced into contact with that organ through the vagina! Cases in which this beneficial result had followed its use were so numerous, that the subject merited consideration.

Mr. Hird mentioned a case of obstinate sciatica, in which all the remedies used had failed of affording relief, but which had been immediately and permanently relieved by the local application of the carbonic acid gas in the mode described by Dr. Johnson.

Lancet, October 3rd, 1840. *p.* 64.

[Dr. Clutterbuck relates a case of "great irritation and some prolapsus of the uterus" in which Dr. Rossi, of Turin, used carbonic acid gas with the greatest advantage. There was "no organic disease of the uterus but a preternatural irritation of the genital organs altogether, and the general health was suffering from sympathy with the local disease." It was treated]

By the repeated local application of carbonic acid gas to the uterus, in the manner described by Dr. Johnson. The quantity of gas applied was thirty cubic inches on each occasion. Nine hundred and thirty cubic inches were applied altogether. The local disease was removed, both the irritation and the prolapsus altogether ceasing, and the health became restored.

Lancet, October 10th, 1840. *p.* 96.

88.—THE USE OF HYDRIODATE OF POTASS IN TYPHUS.

By Dr. Morrison, Physician to the Newry Fever Hospital.

There is a condition in typhus fever which I shall endeavour briefly to describe, and which I think is very materially benefitted by a medicine, that I believe has not hitherto been administered in any of the forms of that disease. The condition to which I allude, is marked by a dry, parched, brown or black tongue—by dark sordes on the teeth and gums—by an inclination to dark, fœtid discharges from the bowels—by a weak and compressible pulse—and by a tendency to the effusion of blood under the skin—in fact, by the ordinary signs of depraved secretions, of vitiated fluids, and of debility.

I think that all parties will agree that derangement of the secreting and excreting functions takes place, as well as an alteration in the vital properties of the blood, in the course of every ordinary case of typhus fever. The dry, glazed, brown, or black tongue—the dark sordes about the lips and teeth—the fœtid and dark-coloured evacuations from the bowels and kidneys—the dryness of the surface of the body—together with the dark colour, and deficient coagulating power of the blood, and the great liability to livid petechiæ and vibices, &c. will, I think fully prove that position. In fact, I want to make it appear, that at a certain period of every regular case of typhus, the body is labouring under a condition, which is probably best expressed by the word cachectic. Now, if this be conceded, it will, I have no doubt, greatly assist me in procuring for the hydriodate of potass a favourable introduction.

Its effects are now very well known to be almost miraculous in many cachectic diseases; and I believe I might almost hazard the appellation of acute cachexy to low idiopathic typhus.

All the secretions seem greatly improved by it—the tongue is greatly and speedily improved by it—the whole frame seems to recover vigour from its use. Whether its primary action is on the blood, I will not venture to say; but I cannot suppose that the benefit which is derived from its exhibition arises solely from its supplying saline particles to that fluid. Dr. Stevens, as is well known, says that the blood is deficient in its saline ingredients, after a certain period has arrived, in cases of typhus fever; and that small and repeated doses of neutral salts are

admirably calculated to remedy this deficiency, and by this means to cure the disease. However, as I have just said, I cannot think that the salutary effects of the remedy in question are produced merely from its supplying the blood with saline particles. Probably its action, like that of mercury, is chiefly directed to the capillary system, and if it be found, *like* that mineral, to act in an especial manner on the secreting and excreting systems, but *unlike* mercury, to give tone and vigour, its use in the latter stages of low fever, will be sufficiently obvious.

The dose which I have been in the habit of administering, is three grains every four or five hours, dissolved in a little water. Of course it may be given with wine, camphor, &c.

Dublin Medical Press, Oct. 21, 1840, *p.* 257.

[Dr. Stevens' saline powder, composed of eight grains of chlorate of potass, twenty grains of muriate of soda, and thirty grains of bicarbonate of soda, will be found to produce somewhat similar effects to those described by Dr. Morrison as resulting from hydriodate of potass. In those cases described as "marked by a dry, parched, brown or black tongue—by dark sordes on the teeth and gums, &c." we have lately found the effects of Dr. Stevens' saline treatment to be very surprising. In almost every case we have found the dark appearances in the mouth to be altered in an incredibly short time. We have given the above dose to adults every two or three hours, in the middle and last stages of the disease for some time; and almost in every case the tongue, lips, &c. became moist and florid, and recovery rapidly followed; except where some other disease existed.]

89.—EFFECT OF LEAD ON THE GUMS.

By Henry Burton, M.D., Physician to St. Thomas's Hospital.

[We subjoin a few interesting remarks on this subject by Dr. Burton, compiled from his paper in the volume just published of the *Medico-Chirurgical Transactions*. We believe he was the first to make this useful observation.]

In the total number of fifty patients who were examined whilst under the influence of lead, a peculiar discoloration was observed on their gums, which I could not discern on the gums of several hundred patients, who were not under the influence of lead, and which I believe cannot be produced by any other internal remedy.

The edges of the gums attached to the necks of two or more teeth of either jaw, were distinctly bordered by a narrow leaden-blue line, about the one-twentieth part of an inch in width, whilst the substance of the gum apparently retained its ordinary colour and condition, so far as could be determined by comparing the gums of these patients with those of other patients of the same class in the hospital: there was no invariable tumefaction, softening or tenderness about them: neither was there any peculiar fœtor in the breath, nor increased salivary discharge to be observed on any of the fifty patients; and on thirteen out of fourteen patients, who were treated in the hospital with acetate of lead, and carefully watched during its employment, the substance of the gums, the smell of the breath, as well as the quantity and colour of the saliva, preserved the same characters, after the appearance of the blue line, as they respectively possessed before the saturnine preparation was administered; but on the fourteenth patient, who died from hæmoptysis, the gums, which were, previously to the use of lead, tumid and soft, became contracted and firm, after the blue line had appeared.

I do not remember to have seen one example of the bleeding tumified gum, peculiar to confirmed scorbutus, produced by the internal use of lead; nor do I think it consistent with experience or reasonable, to suppose that a powerful and very useful astringent in hæmorrhages should simultaneously check hæmoptysis, and produce bleeding and tumid gums.

Neither is the state of the gums and salivary glands induced by mercurial preparations, similar to that produced by those of lead; for in fourteen cases of pulmonary disease treated with the acetate of lead, no pain, heat, redness, or tumefaction of the gums, characteristic of the action of mercurials, were observed; nor was there any increased flow of saliva, nor looseness of the teeth, notwithstanding the blue line was evident on the gums of all the fourteen patients.

I do not wish to assert that salivation and turgidity of the gums are never produced by the internal operation of lead; but I venture to affirm they are rare occurrences, and not characteristic of its influence. On the other hand, the discolouration is a very constant occurrence.

I presume to express a strong belief that the unobserved introduction of lead into the human body is continually taking place, to a much greater extent than is usually imagined, and that it has often caused an ambiguous assemblage of morbid symptoms.

In abdominal diseases simulating lead colic, as well as other forms of disease about which any ambiguity exists, an inspection of the gums will decide the question, whether the symptoms were produced by lead.

With reference to the prophylactic utility of the blue line, I venture in conclusion to express a conviction that if the public in general, and workmen in particular, who are often exposed to the operation of lead, were to attend habitually to the condition of their gums, the discolouration would be often perceived on them in the absence of any other unequivocal symptom, and its appearance would afford them a friendly warning of the probable approach of the more serious effects of lead on the nervous system.

Medico-Chirurgical Transactions, vol. 23, *second series, vol.* 5, *p.* 63—79.

[Appended to this paper is a table which shows at one view the quantity of the acetate of lead taken by certain patients, the time occupied in taking it, and the effects produced on the system. We subjoin a few of the more remarkable cases as examples.

Bryan took 15 grains in four days, and experienced severe colic.

Bevan took 208 grains in twenty-six days, followed by slight abdominal pains, relieved by an aperient.

Carter took 166 grains in twenty-nine days, with slight temporary pain.

Godsell took 295 grains in thirty-three days, followed by no colic, but died of profuse hæmorrhage.

In these and all other cases, the blue line was produced invariably, but not always at similar periods.]

90.—BISCUITS D'OLLIVIER.

[Sir Francis W. Smith, in his "medical communications from Paris," to the Association of Physicians, recommends these biscuits to the profession in those cases where mercury given in the usual forms, or applied by means of friction, produces those unpleasant effects on the bowels, which frequently compel us to relinquish its use, in spite of the assistance of opium. He says]

It will be in the recollection of the Association, that cases will occasionally occur in which mercury is very strongly indicated, but in which the best directed efforts will fail in enabling the constitution to receive it. I allude particularly to those cases, principally of a specific character, where the greatest necessity would appear to exist for producing the constitutional effects of mercury; but where the bowels show an intolerance of the mineral, so decided, as to cause the practitioner in despair to give up its use; its introduction, even by inunction, producing the same poisonous effects as where it had been introduced by the mouth; early in the past year it was my fortune to meet with such a case.

[After relating his cases, in which he was obliged to desist more than once from the use of mercury, he says]

I was now compelled to abandon the mercury, and to rely upon the sarsaparilla, as I did not think it justifiable to give the hydriodate of potass in the existing condition of the bowels; and confess I felt much mortified and annoyed with the state of my patient; when, on conferring with Sir Augustus West, he stated that he had, in similar cases, derived the most satisfactory results from Ollivier's biscuits: that their constitution was as follows: into a certain quantity of paste or dough was introduced a definite quantity of muriate of mercury, the dough is then formed into biscuits of a convenient form, and baked, and the mode of administering them was by giving the patient one to eat each day, increasing the number every three or four days till the effects desired to be produced had taken place, and that he had been thus successful in affecting the mouth gently and with certainty in cases where the bowels were intolerant of the mineral in all other forms; under the circumstances I deter-

mined to try the effect of the biscuits; and without delaying the Association with a detail of the various days on which I increased the number of biscuits consumed, I may state in a general way, that my patient took during forty-five days 264 biscuits, during which time the bowels never became in the least affected. The mouth became sore at the end of twenty days, and the effect of the medicine was afterwards kept up with ease and satisfaction till all symptoms of a syphilitic nature had entirely disappeared; I may add that the decoct. sarsæ. comp. was continued almost without intermission during the whole period, but except during the latter portion of the course the patient was not subjected to confinement.

Remarks.—It is a fact familiar to the members of the Association that mercury may often be successfully introduced into the system by the mouth, even in cases where the bowels have evinced very great delicacy, by taking the precaution of giving it after meals instead of upon an empty stomach; and different reasons may be assigned for the factitious tolerance thus produced; and no doubt it was the observation of the fact which led Ollivier to combine mercury with flour of wheat. I regret not to have been able to procure for the Association the exact proportions which he observes in forming his biscuits, but it will be obvious to the Association that the muriate must undergo considerable modification during the process of baking; probably it is reduced to the condition of a protoxide.

Dublin Journal of Medical Science, July 1840, *p.* 366.

91.—REMARKS ON THE POWDER OF SARSAPARILLA.

[Sir Francis Smith, speaking of this medicine, says]

I have long been engaged in observing the effects of different preparations of sarsaparilla, and I am persuaded that of all the forms in which it can be given, that of powder is in most instances the most valuable. The advantages which it possesses, in my opinion, may be stated as follows; viz. 1, we can make use of it in many conditions of the stomach where a large quantity of fluid would prove inconvenient or injurious; 2, it may be taken in more certain and definite quantities; 3, its effects are, as far as I have observed, more durable. Of course

certain conditions of the skin will occur, where the use of the domestic decoction will be more serviceable, especially if it be taken warm; and in a slimy or foul condition of the primæ viæ the infusion in lime water (recommended by Dr. O'Beirne of Dublin, not as made in the Pharmacopœia) will present special advantages. All forms of extract, whether fluid or otherwise, I have remarked to be so uncertain in their effects, (and that whether made with or without the contact of atmospheric air,) that I have long ceased to prescribe them at all.

MODE OF PREPARATION AND ADMINISTRATION OF THE POWDER.

Different means may be used in preparing the powder of sarsaparilla, and provided they have the effect of excluding the ligneous portion of the root, and retaining the remainder, they may be safely left to the discretion of the compounder. The mode made use of in one establishment where I have superintended its preparation is as follows: a quantity of the roots of sarsaparilla, either split or not, but not cut into short portions, is either subjected to the vapour of steam for a few minutes, or if time admit left in a damp cellar for twenty-four or thirty-six hours, and subsequently introduced for an hour into a stove or oven, moderately heated, which processes have the effect of loosening the connexion between the bark and alburnum and ligneous portion, when the former may be easily stripped off, and powdered finely in a mortar, and the powder may afterwards be taken simply in a spoonful of any bland fluid, or may, in cases where quinine is indicated, be united with a suitable proportion, and the flavour be covered with a little oil of cinnamon—or the powder either simply, or combined with S. of quinine, or in gouty habits, with capsicum or ginger, may be made into pills, and administered in the proportion of from two to four scruples daily.

Dublin Journal of Medical Science, July 1840, *p.* 370.

92.—TREATMENT OF TINEA CAPITIS.

By Robert J. Graves, M.D.

[In a most interesting paper by Dr. Graves, in the Dublin Journal, on "the treatment of various diseases," he makes the following practical observations on tinea capitis:]

This species of ring-worm or dry tetter, is very contagious, and sometimes makes its appearance in one or several spots on the scalp, face, or other parts of the skin, but seldom is observed on the lower extremities or abdomen. It scarcely ever remains for any great length of time fixed in any part, except the hairy scalp, where it is apt to locate itself and become permanent; its duration often extending through a great number of years, or even a whole life-time. I recommend attention to the following points:—

1st. When the disease is of long standing, always insert an issue in the arm before you attempt its cure. I have seen water on the brain, and other fatal consequences, from the neglect of this precaution.

2ndly. If this disease has clearly originated from contagion, and no other evidence of derangement of the general health can be detected, we must not, from the mere presence of the cutaneous affection, infer a constitutional taint, and must avoid the common error, of making the poor children undergo a course of alterative medicines.

3dly. This affection orginating in contagious matter directly applied to the skin, cannot, like some varieties of lepra and psoriasis, (to which it often bears a great resemblance,) be cured by internal medicines, such as mercury, arsenic, and iodine, given separately or in combination, as in Mr. Donovan's new preparation. *(See page* 249.*)*

4thly. When it occupies the hairy scalp, the common procedure of shaving the head is injudicious, for it adds to the irritation of the skin; and the scalp can be sufficiently exposed by cutting the hair as close as possible with a sharp scissors.

5thly. The great object is to get rid of the morbid action which is going on, and which consists in an inflammation of the external surface of the corium; an inflammation occurring in spots, and giving rise in the first place to an increased secretion of epidermis, which produces the scaly appearance of the parts affected; and in the second place, to a very slight and scarcely perceptible oozing of moisture which immediately dries into scales, and thus escapes notice, being mingled with the scurf formed by the detached portions of morbid epidermis.

6thly. The cure must be accomplished by removing these

scales, as far as that can be done by diligent ablution, without using any irritating degree of friction; and when the diseased portion of the skin has been thus exposed, we must next have recourse to some application which will destroy the morbid secreting surface. Formerly this was attempted by means of an endless variety of complicated formulæ, each of which had its advocates; the list may, however, be now reduced to a few simple remedies, and in truth, with nitrate of silver, sulphate of copper, or strong tincture of iodine, every case of this disease may be cured.

7thly. I never use the solid lunar caustic, or sulphate, but prefer a solution of ten, fifteen, or twenty grains to the ounce, as the case may require. As to the application of this solution, it will not do to apply it, as is generally done, with a camel's hair pencil, *for it must be strongly rubbed into each spot*, for which purpose a small bit of sponge, covered with fine linen, and tied to the end of a quill or slender stick, should be employed. When a large portion of the scalp is affected, it will require some perseverance to apply this lotion in an effectual manner.

8thly. An application of this nature, when effectually done, must not be repeated oftener than once a week.

9thly. Immediately after it the whole scalp must be covered with a spermaceti dressing, and the spermaceti must be renewed at least four times daily, so as to keep the head constantly moistened with it. The head is not to be washed for three days after the application of the caustic, or of the tincture of iodine, but then it may be well but very gently washed with yellow soap and water twice a day, taking care to cover, as before, with a spermaceti dressing after each washing.

In scaly diseases of the skin, it is quite surprising how much the cure is facilitated by keeping the affected parts constantly smeared with spermaceti, oil, melted suet, or even candle-grease. Without this aid, the use of caustics will often disappoint the practitioner.

10thly. When the above precautions have been taken, the cure will advance rapidly, and each succeeding application of the caustic solution, or of the tincture, may be less severe.

Dublin Journal of Medical Science, Nov. 1840, *p* 239.

93.—TREATMENT OF SCIATICA AND LUMBAGO.

By Robert J. Graves, M.D.

[Dr. Graves justly remarks that in acute sciatica and lumbago, one of the most powerful remedies consists of morphia, calomel, and James' powder, given in the following way :—Three grains of acetate of morphia, six grains of calomel, and two grains of James' powder, divided into eight portions, and one to be taken every third hour till the gums become affected. This is to be assisted by antiphlogistic measures, as blood-letting general and local, &c. but when the case becomes chronic, and the patient must of necessity continue his occupation, if possible, he strongly recommends, from personal experience, the hydriodate of potass. He experienced in his own person, a severe attack of this disease ; against which he struggled for some time, without obtaining relief. He states as follows :]

Happening to meet Mr. Ferguson of Kildare-street, he recommended me to try hydriodate of potash, of which he was good enough to send me a drachm dissolved in a pint of decoction of sarsaparilla. I took a quarter of this daily, and may literally apply here the common phrase, that I felt each dose do me good ; in truth the benefit I derived was perceptible hourly, and was so rapid, that in four days all traces of the lumbago were gone, and my lameness had quite ceased. I did not take more than one bottle, i. e. one drachm of the hydriodate, but the good effect continued after I had ceased taking it, and in less than a week, I was perfectly well. Subsequent experience enables me to recommend this medicine strongly, in subacute and chronic lumbago and sciatica.

It is right to observe, that the remedy had in my own person to work against various disadvantages, for I neither relaxed from my labours, nor refrained from eating and drinking as usual. This is only another example of the many I have met, which prove how injudicious it often is, to seek the cure of local inflammations by means of lowering the whole system.

In spite of the best directed means, sciatica is very apt to become chronic, and then spirit of turpentine, carbonate of iron, arsenic, extract of stramonium, corrosive sublimate, blue pill, and iodine internally, blisters to the loins, thigh, and calf of the

leg, acupuncture, croton oil frictions, and other stimulating applications must be successively tried. On a former occasion I recommended a combination of opium, with spirit of turpentine internally, and when that fails, Dover's powder, combined with sulphate of quinine. I am sorry not to have it in my power to lay down any general principle, which would enable us to judge in what cases each of these remedies is peculiarly indicated, for experience has not confirmed any of the rules generally relied on, and therefore, we must content ourselves with treating these diseases empirically.

Dublin Journal of Medical Science, Nov. 1840, *p.* 245.

94.—ON THE MEDICAL PROPERTIES OF ALOES.

By G. G. Sigmond, M.D.

The operation of the different varieties of aloes upon the system, though differing in intensity, is precisely similar as to its nature: although they are all perfectly soluble in fluids, whether of an aqueous or of a spirituous kind, they do not seem so immediately to be dissolved in the human stomach, and hence the slowness of their operation, generally speaking twelve or sixteen hours elapsing before their effect is decidedly exhibited. It has been, and is still an interesting question upon what viscus does aloes more immediately act? Whilst some confine its power to the rectum, others believe its agency to be upon the liver; by some it is not believed to be entirely dissolved until it has reached the receptacle of the residue of the ingesta, which cannot be incorporated into the system. Its influence upon the liver is certainly marked by the peculiar condition of the evacuation, which shows evidently, both by its colour, by its odour, by the peculiar pungent effect upon the anus, that an increased quantity of bile has been poured forth. That it acts upon the vena portarum is fairly to be deduced from the very peculiar state into which the hæmorrhoidal veins are thrown by the congestions which so rapidly occur after a dose of this drug has been taken, and also by the condition of the uterine vessels which has led to its employment as an emmenagogue. It is not easy to ascertain whether the specific

influence upon the venous system is the cause of the cathartic power possessed by it; we find, however, that some connection exists, and that the more the large intestine is stimulated to pour forth its contents by its action, not by the largeness of its dose, the greater is the relief afforded to the sanguiferous system; hence its great value in determination of blood to the head, in venous congestions, and its superiority over medicines of a somewhat similar nature, and hence, too, the caution necessary in its administration. The slowness of its action renders it sometimes to us of much importance, from our power of giving it in some states in which it is to be given at night, and its operation is not required until the morning; the smallness of the volume in which it may be used, the shape of pill into which it is so easily made, and which disguises so well its bitterness, are all of them subjects worthy our consideration.

From the circumstance of the alkalies and the carbonates rendering it more soluble, it is often combined with them, and we are hence furnished with weapons which, used with skill and care, enable us more certainly to combat disease. Thus, with soap, although we may diminish its intensity of action, we render it more quickly purgative. If, with Dr. Hamilton, we cannot quite agree that it is almost a universal remedy, that the most formidable maladies will yield to its effects, still it is to be acknowledged that in a vast number of chronic disorders it is invaluable; that in the obstinate constipation to which the artist, the student, the aged, and the sedentary are subject, from inactivity of the liver and the sanguiferous system, it is, under the control of the skilful medical man, a drug which deserves the highest commendation; and though from its abuse in the vast number of quack medicines and patent pills, it has been the source of mischief, and has been occasionally condemned, we possess nothing that we could substitute for it that has more claims to our consideration.—*Lancet, Aug.* 1838.

American Journal of Med. Science, Feb. 1840, *p.* 445

95.—OBSERVATIONS ON BLOOD-LETTING.

By Henry Kennedy, M.B., L.R.C.S.I.

The effects of taking blood from the system as a general plan of treatment, suited to many diseases, has been treated of

by some authors, but by none in a more masterly manner than by Dr. Marshall Hall. I am not aware, however, that even this author has alluded to one effect, or rather law of the system, connected with loss of blood, on a knowledge of which appears to me to depend a great deal of our success in the treatment of disease. The law alluded to is simply this—that as soon as a quantity of blood (℥ xii.) is abstracted, that moment the system commences to supply the deficiency. it would appear, in fact, as if within certain bounds, the quality of the blood was secondary in importance to its quantity. It is now many years since I saw the following experiment performed by the late Dr. M'Dowell:—A vein was opened in the neck of a dog, and the animal was allowed to bleed to apparent death: a quantity of tepid water was then thrown in; and, according as it passed, the animal revived, and was soon able to stagger about. It is well known, too, that when venesection is had recourse to, three or four times in rapid succession, the clot constantly diminishes, while the serum of the blood as constantly increases, at each bleeding, showing, at least to appearance, that the deficiency of the proper blood of the system is made up by the serous supply. The experiments of Prevost and Dumas prove the same point still more satisfactorily: they found that even in so short a time as ten minutes the serum of the blood had increased in quantity.

In sthenic pneumonia, it frequently happens that in spite of treatment the lung becomes solid; or, it may be, the patient does not present himself till this has occurred. A good deal of difficulty often exists in deciding on the propriety of general bleeding in such cases: the extremities may be cold, and the surface covered with clammy perspiration; the pulse, too, may be weak; and yet there are few cases in which general bleeding will be found more beneficial. Reaction will be found to establish itself, and the lung will become much more rapidly clear than if less energetic means had been used. There is still another case connected with pneumonia, and which presents itself to the medical man by no means unfrequently. A person gets a slight cold, which is neglected; after some time he asks advice, and on examination, a portion of lung is found solid. All fever has subsided—the necessity for bringing back the lung to its healthy state need not here be insisted on. Now, this cannot be better done than by following up a plan of treat-

ment which has been already spoken of by Dr. Stokes for the cure of empyema, only with a little more vigour. In place of local bleedings, or possibly in conjunction with them, one or two general bleedings will be followed by the most decisive results. It may be recollected among the details of the treatment alluded to above, that the lowest diet is enjoined—hence the 'modus operandi' of this plan appears to me sufficiently obvious, by keeping in mind the principle I am endeavouring to establish. The system is deprived of a quantity of its blood, and the food taken is not sufficient to supply the deficiency. Under these circumstances, the system is, I believe, actually forced as it were, to take back whatever may have previously been poured out, such as serum, lymph, or possibly even pus. It is curious to observe in some cases with what great rapidity this may be effected. I have the notes of a case of acute pleuritic effusion, complicated with pericarditis: Dr. Stokes saw this patient, and guessed the effusion to amount to three half pints. All evidence of effusion had disappeared at the end of 48 hours: this patient had been largely bled—three times generally, and four times locally. Many other instances might be adduced—thus, two very formidable cases of hœmoptysis have come under my notice. On examining the chest, the respiration was found to be very feeble, and largely mixed with bronchial râles. To save these patients' lives, it was necessary to have recourse to extensive bleeding, both general and local. The following day the respiration had become quite clear, and the râles had very nearly completely disappeared. In severe cases of epistaxis it is well known there is no more judicious means of arresting the bleeding than by taking a quantity of blood from the arm. Some time back I met with a case of hæmorrhage from the socket of a tooth: the bleeding had been going on very freely for seven or eight hours, and the patient had been much weakened. Having tried the usual means of arresting the hæmorrhage, and failed, I placed the patient on a chair without a back, and bled him till he fainted: he probably lost about ℥ xiv. of blood, but it had at once the effect of stopping the hæmorrhage, and it never recurred. How is this to be explained? Simply, I conceive, in this way:—Nature is frugal of the blood of the system, and rather than lose a quantity that would injure it, she will stop hæmorrhage which is proceeding from the mouth of even an open vessel.

Dublin Medical Press, Sep. 23, 1840, *p.* 196.

96.—ON THE ADVANTAGES OF A HIGH TEMPERATURE IN THE PREPARATION OF BLISTERING PLASTER.

By M. Donovan, Esq.

It is a common opinion that blistering plaster is injured by being heated; and hence it is customary, in preparing it, to mix in the powder of cantharides with the fatty ingredient when they are about to solidify, after having been melted. This mode of proceeding is directed also in the pharmacopœias; and the caution seems founded on the supposition that the cantharidin or vesicating principle is of so delicate a nature that it would be injured by any higher temperature.

The supposition I believe to be unfounded, and the precautions used in making the plaster, not only unnecessary, but injurious.

Several years since I made the following experiments. A quantity of blistering plaster was prepared exactly according to the pharmacopœia. Another portion was made by mixing the fatty ingredients with the powdered cantharides, exposing the mixture to the temperature of 250° for half an hour, and then, while the plaster was very hot, straining off the cantharides. With each of these plasters a blister was made in the usual manner, and applied to the inside of my thighs. In eight hours the plaster made by heating to 250° had reddened the skin more than the other; in twelve hours a few vesicles were produced by the former, and not by the latter; but in sixteen hours there was a perfect and equal vesication in both cases.

I tried the effect of the blister prepared by heat on a number of persons, and found it exceedingly active. In two cases the persons had common blisters applied with less effect than was desirable, but the vesication was perfect when blisters prepared by heat were employed.

I prepared blistering plaster by exposure of the cantharides with the fatty materials to so high a temperature as 300°, and applied a blister made of it to my arm. In sixteen hours there was as perfect a vesication of the *whole* surface as ever I saw. There can be little doubt that a still higher temperature may be employed without destruction of the vesicating principle.

These experiments prove that there is not only no injury

done to the vesicating principle of cantharides, even by a very high heat, but that blisters made by the heating process are rather more active than those prepared in the usual manner. Indeed it might be expected that such would be the result. The powder of cantharides, even when fine, still contains much of the cantharidin locked up in the scaly armour of the fly. By the solvent power of the melted fats, the cantharidin is dissolved out of the parenchymatous portion of the fly, and being then in its most minute state of division, it will blister with proportionate activity. The parenchymatous portion, now in a great measure exhausted of its vesicating principle, is perhaps detrimental, by occupying space without contributing power.

Much trouble is saved by preparing blistering plaster by the high temperature plan. When the cantharides are used according to the instructions of the pharmacopœia, they must be finely powdered, an exceedingly difficult task: while, in the other way, they need only be somewhat broken down, and they may be removed by the strainer when the active principle has been dissolved, and extracted from them.

It remains to show that the employment of heat in the preparation of blistering plaster has other advantages. Damp is a great enemy to the balance of the elementary affinities in the fly. I have found that powder of cantharides which contained merely their usual quantity of moisture when put into a glass bottle and well closed up with a glass stopper, acquired an intolerable fœtor after some months. The powder exhaled ammonia; for when a slip of paper wet with dilute nitric acid was let down into it, white fumes were abundantly produced. This proves decomposition. The smell of ammonia was even recognizable in the fœtor. Long before this period the powder had become mouldy.

We know also that blistering plaster always becomes mouldy when any moisture had been left in its ingredients. Suet and hog's-lard put up in a moist state become mouldy; but both of them keep better, and the former for a long time perfectly well, when moisture has been carefully excluded.

Thus moisture is detrimental to all the ingredients of blistering plaster; and hence every precaution ought to be taken to expel it. This will best be done by heating the fatty materials, melted with the resin, to the temperature of 250°; the

water will have bubbled off in steam when this degree has been attained. If powder of cantharides, in its ordinary state of dryness, be thrown into the fats, heated to this temperature, there will be a sudden, copious, and long-continued extrication of steam bubbles, although the powder had been to all appearance dry,

These observations afford the principles on which blistering plaster of due activity and of a comparatively imperishable kind, may be formed. The process is this. Introduce the resin and fats into a proper vessel; melt them; throw in the powder of cantharides; stir the mixture continually until a thermometer immersed in it indicates that the temperature has risen to 250°. Remove the vessel from the fire, and, if the cantharides are not to be strained off, continually stir the ointment. By these means, all the water will have been expelled from the fats, the resin, and the cantharides: and a plaster will be obtained much less liable to injury from being kept than the common.

The employment of a high temperature, in the preparation of blistering plaster, has several beneficial effects. It causes the solution of the vesicating principle in the fats, thus producing a blister more certain in its operation. It expels the water which naturally exists in all the ingredients of blistering plaster, and endangers its spoiling, if long kept.

While I am on this subject it may be proper to allude to a proposal which has been made of a method of obviating strangury arising from the action of blisters. It consists in boiling the cantharides in water previously to their being pulverized, and drying them. After this, it is said they no longer possess the injurious property.

Dublin Medical Press, Aug. 19, 1840, *p.* 118.

97.—ON THE USE OF SULPHUR IN SOME SPASMODIC AFFECTIONS, PARTICULARLY IN ANGINA PECTORIS.

By W. Munk, M.D., Physician to the Tower-Hamlets Dispensary.

[Dr. Munk was first led to notice the effects of this remedy in a gentleman whom he was attending for a different disease,

and who was attacked with angina pectoris towards the termination of the attendance. Dr. Munk, on taking leave, advised the sulphur to be taken regularly as a laxative, without any view of curing him of his accustomed attacks of angina pectoris, to which he was very liable.]

Some months after this, [says Dr. M.,] when in attendance upon a member of his family, I enquired concerning the attacks, and was informed that there had been no return of them. He had also remained free from hæmorrhoids, and had kept the bowels greatly relaxed by sulphur, a drachm of which in milk he swallowed every night on going to rest. Himself, however, and the other inmates of the house, complained greatly of the disagreeable odour of his perspiration, and were anxious to have some other laxative in the place of sulphur. The confection of cassia was, therefore, substituted for it. Six weeks after this he had a severe attack of angina, another in about a month, and again, for a third time, after an interval of seven weeks. Attributing the relapse to the electuary, he of himself again had recourse to sulphur. The bowels were kept by it, rather more open than by the cassia; and, for a considerable period, he continued free from the paroxysms. In the autumn of 1838, owing to the heat of the weather, and the consequent increase in his perspiration and its disagreeable concomitant, the sulphureous odour, he once more discontinued its employment, taking now, in its stead, small quantities of castor-oil, or of the compound rhubarb powder of the Edinburgh Pharmacopœia. Again did the paroxysms return, and for a third time, did they cease with a recurrence to the employment of sulphur. This medicine he continued during the whole of the winter, without any return of the complaint. In May, 1839, he experienced a very slight paroxysm, although then taking the sulphur as usual; since which he has remained in perfect health, with the exception of an occasional return of hæmorrhoids.

Some time elapsed before I could arrive at any thing approaching to a satisfactory solution of the relief experienced; at first I attributed it to the lax condition in which the bowels had been kept; yet this supposition could scarcely be correct, inasmuch as other medicines, equally efficient as gentle laxatives, produced no such result. After a time, however, the connection between the particular laxative sulphur and the absence of the

paroxysms became so evident, that it could scarcely be doubted but that they stood in the relation of cause and effect.

[Dr. Munk was still unable to account for the *modus operandi* of the drug until he met with Dr. Chapman's "Elements of Therapeutics", in which work it was asserted that sulphur even when applied topically in the form of powder to any part affected with spasm, cramps in the muscles, stomach, &c. had a decidedly good effect. Dr. Munk found this to be the case, in a case of the latter disease; and then proceeds to say,]

Having thus proved experimentally the accuracy of Dr. Chapman's statement as to the power of sulphur in these cases, I became the more anxious to test its effects in angina pectoris, a disease which, I believe, depends upon an analogous condition of the nervous and muscular structures of the heart.

That spasm or cramp of the heart is the proximate cause of the symptoms constituting the paroxysm was the opinion of Dr. Heberden, to whom we are indebted for the first description of the disease, and for the name it now bears.

[Dr. Forbes, in his article on the same subject in the *Cyclopædia of Practical Medicine*, says,]

Of the intimate nature of the pain in the paroxysm of angina we know nothing; but we know no more of the nature of any pain. All that we can propound concerning it is, a relation of the events which seem to lead to it, and the condition of the parts in which it occurs; at the time of its occurrence we know that the pain is not of that kind which arises from inflammation or ulceration, or any other fixed physical alteration of the part. All the circumstances attending it *prove it to be of that kind which occurs in cramp or spasm,* or from pressure, or in the class of cases termed neuralgic, in which the painful sensation is the result of some unknown temporary condition of the nerves of the heart, not manifested by any physical alteration of them discoverable by our senses.

Lancet, June 18, 1840, *p.* 602—606.

[Dr. M. very justly warns us not to expect much benefit when the angina pectoris is owing to structural disease of the heart, but only when its functions are disordered. The disagreeable odour of the perspiration is a strong objection with many against its continued use.]

98.—OBSERVATIONS ON MONESIA.

By M. Bernard Derosne, Paris.

A new substance has been added to the materia medica, which seems likely to be of considerable importance. A French merchant who had resided for a long time in the interior of South America having observed remarkable effects produced in certain diseases peculiar to the country, by the use of an extract which was prepared from the bark of a native tree, determined to import this substance, known under the name of monesia, into France, and have its properties examined by competent persons.

We have no knowledge of the tree which furnishes this bark, and as far as we know, no American traveller or naturalist has described it; the bark, of which we have some specimens at our disposal, is of a dark reddish brown colour, and presents a compact fracture. The extract, as prepared in the country, has been sent to us in the form of small cakes weighing about five hundred grains, and being from eight to ten lines in thickness, its colour is a dark brown, nearly black; the newly-fractured surface is neither dull nor shining; it is entirely soluble in water, and its taste, which is first sweet, becomes soon astringent, and leaves finally an acrid taste, which is strong and persistent.

Monesia has been used both externally and internally, and the following are the diseases in which it has been tried:

Used internally.—Bronchitis, hæmoptysis, phthisis pulmonalis, diarrhœa, debility of stomach, enteritis, leucorrhœa, blenorrhagia, scrofula, scurvy.

Used externally.—Purulent ophthalmia, hæmorrhoids, ulcers, leucorrhœa.

Mode of Administration.—The preparation of monesia which has been most frequently used, is the extract in the form of pills, in doses of from twelve to thirty-six grains in the day. M. Martin St. Ange has two or three times gone so far as forty-five grains in the day. The syrup has been rarely used, it is less active than the extract, and is only preferable in the case of children; the tincture has been used in the form of injections, containing a drachm of the tincture to six ounces of water, and a stronger injection may be used without inconvenience. One

or two drachms of the tincture may be given internally in the day, in a bitter infusion.

In general it may be said, that monesia is most active in diseases of the digestive organs, in hæmoptysis, and uterine hæmorrhage; while in cutaneous diseases, and mucous fluxes from the genitals and lungs, its action appears less marked.

This medicine presents this remarkable property, that although endowed with energetic power, and producing considerable stimulating effects on ulcerated surfaces, it produces no irritation of the stomach, as many tonics do.

Finally it must be observed, that physicians who have experimented on this substance, have in all cases, in order to determine its relative activity, prescribed it after having used other means. And lately a comparative experiment has been made between pomade of tannin and of monesia, which has shown the superiority of the latter substance.

Dublin Journal of Medical Science, Sept. 1840. *p.* 127.

99.—ON THE LACTATE OF IRON.

This new preparation of steel has already been extensively tried by some of the leading hospital physicians in Paris, and has met with their unqualified approbation.

The following extracts from a memoir by M.M. Gelis and Conté will be sufficient to introduce it to the notice of the English reader.

"Several reasons have induced us to select the combination of the protoxide with the lactic acid: this acid is widely diffused through the economy; there is, perhaps, not one part of the body which does not contain a notable quantity of it. Berzelius has detected it in muscle, in milk, and in all the secretions; the perspirable matter owes its acidity to its presence, and a considerable quantity is found in the urine. The solvent power of the gastric juice is perhaps mainly attributable to the presence of the lactic acid: the traces of the hydrochloric are, it is now generally admitted, very feeble.

It must, therefore, be the lactate that is formed in the stomach, when any steel medicine is swallowed.

It is easily prepared by treating iron filings with diluted lactic acid. The water is decomposed, hydrogen is evolved, and the oxygen combines with the iron. When the evolution of the gas ceases, the solution is filtered and then evaporated until a pellicle forms on the surface: the salt chrystallises on cooling.

The lactate is not very soluble in water, and a high heat decomposes it. It is not readily affected by exposure to the air.

It may be administered in the form of pastilles, drops, or lozenges: the sugar which enters into the composition of these prevents the further oxydation of the salt. The dose is from four to fifteen grains.

The authors adduce several cases of chlorosis and other states of the system which are usually relieved by steel medicines, drawn from the practice of M.M. Bouillaud, Rayer, Beau, &c. in which the lactate was administered with excellent effects: in some it succeeded after the usual ferruginous preparations had been fairly used without benefit.

M. Bouillaud has reported most favourably of this new medicine to the Academy: he has used it in 21 cases, and in all it produced excellent effects. It seems to have a marked influence in increasing the appetite. The dose was from six to fifteen pastilles (five centigrammes in each): perhaps each patient took eight or ten grammes in all.

Professor Fouquier confirmed the favourable report communicated by M. Bouillaud. He stated, as his opinion, that the lactate would become one of the most valuable and standard ferruginous preparations used in medicine.

Medico-Chirurgical Review, Oct. 1840, *p.* 511,

100.—ON STAMMERING.

[The following observations are by a young physician who cured himself of this troublesome affection in the way here described.]

To form a more accurate idea, [says he] as to the cause of stammering, let us briefly notice what we observe in a person afflicted with this infirmity, when he attempts to speak.

In some cases—and this is the least severe form of the malady—the person speaks sufficiently fluently for a greater or

less length of time; but if the pronunciation of a word which begins with certain consonants, such as *b*, *p*, or *v*, coincides with the close of an expiration, then the breathing becomes embarrassed, hurried, and panting, and the efforts of the person to pronounce the word are accompanied with convulsive movements of the lips; at other times the lips are in a state of tonic spasm. At length the person succeeds in overcoming this difficulty, by taking his breath or making an inspiration.

In other cases, where the stammering is more decided, the person often cannot utter without difficulty almost any sound, even when the word which he wishes to pronounce begins with a vowel, (as was the case with myself in respect to the word *oui*); the features and neck swell up; and the jugular veins become distended; and the person tosses his arms about to find relief.

These two degrees of the infirmity are often observed to coexist in the same person: if he becomes embarrassed by a word which begins with a consonant which is not easily pronounced, the fear of not being able to proceed renders the respiration panting; and then any efforts at speech are quite impracticable.

In both degrees or stages of the malady, *the stammering ceases after a strong inspiration;* but it returns at once if the person does not continue to respire regularly, and the more frequently and badly if his breathing becomes agitated, and he strives much against it.

The great object, therefore, is to bring and keep the respiration in a quiet tranquil condition, and cause it to follow a certain degree of cadence, such as we use in singing or in declamation. If the person can but once effect this, he will no longer stammer.

From what we have now said, it is evident that in all the various sorts or degrees of stammering, its essential cause consists in a convulsive condition, either of a tetanic or choreic character, of the respiratory function—the effect of which is, either to disturb more or less, or altogether prevent, the articulation of sounds.

What occurs in the lips, tongue, and throat, is not the essential and primary cause, but is altogether accessory; and it is according to which of these parts is chiefly affected, that the different varieties of the infirmity are produced.

The immediate cessation of the irregular convulsive movements by taking in a deep inspiration, clearly shows how intimately they are connected with the cause now mentioned. It was by attending to this simple means, suggested to me by Dr. Lindt of Berne, that I cured myself at the age of twenty years. The cure, indeed, was aided a good deal, I believe, by the employment at the same time of gymnastic exercises—the effect of which is powerfully to increase the influence of the will over the muscular system in general. Indeed it has been by their influence in regulating the act of breathing, that the efficacy of various means, which had been recommended and found useful, at various times, in the treatment of stammering, is to be accounted for. In this way the practice of declaiming on the sea-shore with a pebble in his mouth cured, it is well known, Demosthenes of old.

M. Itard has advised the use of some mechanical means to keep the tongue raised, and he makes his patients at the same time speak in a foreign language. This plan of keeping the tongue raised towards the palate has been recommended by other writers. By this simple means, Madame Leigh assures us that she effected a cure in upwards of 150 cases.

But however useful it may be to a person who stammers to acquire a certain control over the movements of the tongue, let it be ever kept in mind, that no permanent benefit will be derived unless the patient acquire, at the same time, the power of regulating his breathing—so that whenever he begins to hesitate or falter, he at once draws in a full breath. Madame Leigh imposed upon her pupils absolute silence, except during the hours of practising: and she always observed that those who had the greatest mental energy and power over their will were the most easily and quickly cured.

M. Colombat, although his theory of stammering is far from being correct in our opinion, has recommended a most judicious method of treatment, which if rightly pursued is always sure to effect a cure. It consists in the adoption of the following three means; 1, Giving the tongue such a position that its apex is directed upwards and backwards; 2, Taking in a deep breath at the commencement of each phrase, and repeating this more or less frequently; and 3, Marking the time in speaking by the movements of the thumb upon the fore-finger.

By following out these simple rules, it is almost impossible for any one to stammer; and when we consider that this method of treatment consists essentially in causing the person to inspire at the commencement of each phrase, and marking the regular return of the inspirations by the movements of the thumb upon the finger, we at once understand its physiological explanation.

Medico-Chirurgical Review, Oct. 1840, *p.* 489.

101.—TREATMENT OF DROPSY OF THE SYNOVIAL MEMBRANES BY TARTAR EMETIC.

By M. Gimelle.

M. Gimelle has found the administration of tartar emetic in large doses very efficacious in curing dropsy of the synovial membranes; causing complete absorption of the fluid, with abatement of all inflammatory symptoms, if any exist. Twenty-seven cases of dropsy of the joints have been treated successfully by him. He, without any previous treatment, commenced by giving four grains of tartar emetic in the twenty-four hours, and increased the dose by two grains every day, till from eighteen to twenty grains were taken daily. As soon as toleration of the medicine was established, the fluid began to be absorbed, and the cure was in general complete in from eight to sixteen days.

In only five of these cases was vomiting excited by the medicine, in two cases for three days. In eight cases it produced alvine evacuations: but its most general and constant effects were diminution of the strength and quickness of the pulse, weakness of the voice, abundant nocturnal perspirations, and the appearance of a dark circle around the eyes. In almost every case the appetite remained unimpaired. M. Gimelle regards this plan of treatment as the most successful ever yet proposed for the treatment of dropsy of the synovial membranes.

Bulletin de l'Academie Royale de Medicine, and Edinburgh Med. and Surg. Journal, Oct. 1840, *p.* 522.

102—ON THE EMPLOYMENT OF CIMICIFUGA IN CHOREA.

By Dr. Kirkbride.

The *Cimicifuga racemosa* of Nuttall, or black snake-root, was several years ago, brought under the notice of the profession by Dr. Young of Pennsylvania, as a valuable remedy in chorea; and Dr. Kirkbride has given seven additional cases, which go far to prove the efficacy of the remedy as a cure for that disease. He usually employed free purging for a few days before beginning the administration of the snake-root, which was given either in substance or in decoction. No other medicine was required during the period of its administration, and the cures were in general complete within four weeks after its use was commenced.

Dr. Kirkbride was unable to ascertain in what manner this root produces its physiological effects, as in the largest dose in which it had been exhibited, it had no very evident action on any organ of the body. The bowels were in general moderately open during the use of the remedy, but nothing like purgation was ever produced.

American Journal of Med. Science; and Edinburgh Med. and Surg. Journal, July 1840, *p.* 255.

103.—MODE OF DISCOVERING ADULTERATION OF ESSENTIAL OILS WITH ALCOHOL.

By M. Borsarelli.

M. Borsarelli introduces the essential oil into a cylindrical tube about one inch in diameter and four in length, closed at one end. The tube is to be about two-thirds filled with the oil. He then introduces small pieces of chloride of calcium, very dry and free from dust, closes the open end of the tube with a cork, and places it for four or five minutes in a water-bath heated to 100°, occasionally shaking it. The tube is then allowed to cool gradually, and if the oil contain any considerable quantity of alcohol the chloride is entirely dissolved, forming two distinct layers—the superior is the essential oil, the inferior

the alcoholic solution of chloride of calcium. If the oil contain but a very small proportion of alcohol the calcareous chloride effloresces, loses its form, and becomes a white mass which adheres to the bottom of the tube. Finally, if the oil contain no alcohol, the chloride not only does not dissolve but retains its proper form.

The same process may be employed to discover the proportion of alcohol mixed with æther, remembering, however, to use a longer tube and not to cork it too tightly.

British and Foreign Medical Review, Oct. 1840, *p.* 582.

104.—COLOCYNTH OIL, A SUBSTITUTE FOR CROTON OIL, IN NEURALGIA, SCIATICA, &c.

By M. G. Janelli.

Dr. Janelli mentions that he has found the oil of colocynth a valuable and cheap succedaneum for croton oil, as an external application in neuralgic affections, but especially in sciatica. He relates in detail three cases of its efficacy in sciatica, and three in cases of rheumatism. After frictions with the oil, the patients generally fell asleep, so much were their sufferings alleviated, and in a few days were so far recovered as to be enabled to return to their usual avocations.

It is to be regretted that no details are given as to the mode in which this oil is prepared, whether from the colocynth seeds by expression, or from some preparation of the pulp of the apple.

Edinburgh Medical and Surg. Journal, Oct. 1840, *p.* 517.

SURGERY.

105.—GENERAL VIEW OF THE MODERN TREATMENT OF SYPHILIS.

[Perhaps one of the ablest articles which has lately appeared on this subject in any medical journal, is that to be found in the number for October of the *British and Foreign Medical Review*. It forms a most complete epitome of the views and treatment of most modern authors on this subject, and gives us those of M. Ricord in particular. It occupies a space of nearly forty pages of that journal, and is preceded by an equally lucid article on the same subject in the number for January, 1838. We strongly advise those of our readers who have not yet perused them, to do so immediately, if they have not the time or opportunity to refer to the original works of the respective authors. We have endeavoured to make a careful selection of the most practical matter, and especially such as refers to the treatment of the disease. Ricord, Championniere, Wallace, Mayo, Parker, Key, Carmichael, Humbert, Lawrence, Mackenzie, Acton, and Hauck, are the authorities upon whom the following remarks are founded; which may be considered a collection of the most valuable aphorisms on this important subject.]

Chancres are divisible into two distinct stages recognized by Ricord, Wallace, Carmichael, Evans, and others, viz. the stage of ulceration and that of reparation or granulation. It is during the first stage only that the chancre secretes a specific pus, capable of propagating the disease, and producing a similar sore by inoculation: when the sore begins to heal, when granulations spring up, covered by simple puriform matter, the disease is not capable of propagation.

Mr. Evans states that from his experiments he is led to conclude that the fluid secreted by a chancre varies in its effects. He proves that the earlier the infection is taken, whilst the sore is in its excavated or ulcerating state, and, as we may infer, before the matter is truly purulent, the more severe and obstinate is the ulcer which it produces.

The mixture of the true venereal virus, secreted from a chancre in the state of ulceration, with the ordinary mucus of the vagina, the urethra, or the surface of the prepuce, or with the secretions of these parts in a state of inflammation, does not destroy its specific character or prevent it producing the characteristic pustule by inoculation, unless it be too much diluted. Various chemical agents, however, destroy its powers, and it no longer produces any result when tested by inoculation. Chemical substances decompose it. Amongst these Ricord mentions alkalies, and moderately concentrated acids, as the nitric, hydrochloric, sulphuric, and acetic; potass, soda, ammonia, wine, alcohol, and a strong decoction of tan: the active principle of the latter with wine, forms one of his favourite applications to primary syphilitic sores.

The next question to be resolved is the identity or non-identity of the morbid poisons producing a true chancre and gonorrhœa. We believe the diseases to be totally distinct, as the experiment of Ricord and many others seem to us incontestibly to prove. Not only are they proved to be distinct by the results drawn from inoculation but by their pathology and the effects of remedies. It is well known that Hunter considered them identical. Dr. Wallace maintains nearly the same views, considering gonorrhœa as a form of primary syphilis which he describes under the term "catarrhal primary syphilis;" and we find some writers even at the present day still maintaining that gonorrhœa gives rise to chancres followed by secondary symptoms.

Mr. Carmichael, in his lectures on venereal diseases, recently published in the *Dublin Medical Press*, has misunderstood and consequently mis-stated some of M. Ricord's experiments. Mr. Carmichael there adduces some cases of discharges from the urethra which being tested by inoculation yielded the characteristic pustule of chancre. Mr. Carmichael gives this as a case of gonorrhœa; but Ricord distinctly calls it a case of concealed chancre, chancre of the urethra (chancres larvés.)

M. Ricord has established the fact that chancres often exist deep in the vagina, and even upon the os uteri.

His researches on the nature and differential diagnosis of buboes are of interest. According to this author, buboes are of two kinds, simply inflammatory, or virulent: in the first instance, succeeding to gonorrhœa, balanitis, or any other primitive affection; and in the second, arising from the consequences of the direct absorption of specific matter from a chancre.

He insists that when these buboes occur, without the intervention of any antecedent form of disease, it is impossible to judge of their true character without the test of inoculation, and consequently impossible to heal them rationally or well. He maintains that those only which furnish the true characteristic pustule of chancre by inoculation are those only which are capable of being followed by secondary symptoms. In testing open buboes, he impresses upon us the necessity of taking the matter for the experiment from the secreting surface of the sore itself, and not from the pus which may run out from the bubo, since he constantly found that the latter, which was doubtless ordinary pus, produced no effect, whilst the former—that from the surface or bottom of the sore itself—was followed, where the bubo was venereal, by the usual characteristic pustule of chancre.

The treatment of syphilis without mercury is termed "the simple or physiological method," the treatment with mercury "the revulsive or mercurial."

Treatment of Primary Syphilis.—We shall commence with the catarrhal affections. There is a true and false gonorrhœa properly so called; and also gonorrhœal diseases of the eye.

It is of great importance, where the character of a female is at stake, to determine whether the affection she is labouring under be merely a chronic or subacute vaginitis, or a true gonorrhœa.

Modern authorities do not seem to have advanced much since the time of Hunter in determining the differential diagnosis of the two diseases. "The diagnosis of leucorrhœa," says Dr. Churchill, in his Outlines of the Principal Diseases of Females, "is, according to all authorities, extremely difficult." Sir C. M. Clarke seems to think it impossible. Ricord thinks all doubt may be removed by an examination with the speculum. Whenever the peculiar erosions or superficial ulcers of the mucous membrane covering the cervix uteri are discovered, and

which occur in nineteen out of twenty acute cases, we can have no hesitation in pronouncing the disease to be true gonorrhœa. Uncomplicated balanitis generally gives way quickly to remedies of an appropriate kind. If the prepuce can be denuded, Ricord recommends the surface of the glans and prepuce to be superficially cauterized, by drawing the solid nitrate of silver quickly over the whole diseased surface. Slightly astringent injections between the glans and prepuce are of great service, as recommended by Desruelles and Cullerier. Mr. Parker recommends the following liniment to be introduced between the glans and prepuce by means of a camel-hair pencil: ℞. Cerati simp. v. Mellis, Olei Olivæ, aa ʒ j. Hydrarg. Chlorid., ʒ ss. P. Opii, ʒ j. M. All the modern writers under review agree in the propriety of an antiphlogistic treatment in the early stages of acute or virulent gonorrhœa.

When the acute inflammatory symptoms have been subdued, Dr. Wallace submitted his patients to the use of what may be termed the specific remedies in gonorrhœa; such are cubebs and the copaiba balsam, with injections of the nitrate of silver and mercury. Mr. Judd, Ricord, Cullerier, and Mr. Parker have employed the nitrate of silver injections with great benefit in gonorrhœa; there appears, however, amongst these writers great difference of opinion as to the degree of strength in which the solution of this salt should be employed. Dr. Wallace and Mr. Judd have used it in the proportions of fifteen grains or even more to the ounce of distilled water; Ricord and Mr. Parker recommend two grains to the half-pint. Sometimes the solution of nitrate of silver cannot be borne or does not check the discharge. In these cases the authors before us have proposed a vast variety of remedies. A favourite injection with M. Ricord is a solution of the ioduret of iron in the proportions of three grains to six ounces of distilled water. In weak solutions the ioduret of iron has frequently arrested the discharge in five or six days; again it has produced an acute attack of urethritis; but when this has subsided the patient has found himself cured of his gonorrhœa. Sir George Ballingall has made some observations on the use of the nitrate of silver injections of the strength recommended by Dr. Wallace and Mr. Judd, and the results would lead us to make use of it with a less proportion of the salt. Sir G. Ballingall employed it in two cases, and both recovered quickly, but at the expense of much suffering. In

twenty cases, in which it was used in the 88th regiment in the strength of a scruple to the ounce, the cases were cured at various periods from ten to forty-two days, the average length of time having been seventeen days. In seventeen cases treated in the same regiment by rest and abstinence, the average duration of the treatment was only eight days. Rest and abstinence, however, are not always to be enforced in private practice; and Sir G. Ballingall thinks that unless injections be employed immediately on the subsidence of the inflammatory symptoms, the disease may be protracted for months. Where the solution of ioduret of iron has been borne, the average duration of the treatment has been seven or eight days.

The formulæ for a great variety of injections are given by Mr. Parker. Amongst these a favorite one of M. Ricord may be mentioned, consisting of a solution of pure tannin in port-wine in the proportions of eighteen grains of the former to six ounces of the latter. This is occasionally very useful. We have known a few grains of tannin placed upon the tongue quickly cure a salivation which no other remedy would check.

Swelled Testicle.—The treatment generally adopted in affections of this kind consists of general and local bleeding, fomentations, poultices, with evaporating and slightly astringent lotions. Under this plan patients are generally a long time in recovering, and its use confines them to bed and the recumbent posture.

Suspension of the testicles with gentle pressure is of great service in affections of this character, and has given rise to the treatment now uniformly practised by Fricke in Hamburg, and by Velpeau and Ricord in Paris. Compression in inflammation of the epididymis and the envelopes of the testicle generally effects a cure in four, five, or six days. It prevents the occurrence of hydrocele, and one inestimable advantage is that during its employ the patients can, except in very acute cases, follow their occupations

We have seen several instances where the patients have not lain in bed an hour, whilst under the ordinary antiphlogistic treatment they would have been confined from ten days to a fortnight.

Venereal Diseases of the Eye.—In recent cases the eyes are to be washed out every eight hours with a collyrium composed of one grain of the bichloride of mercury, and eight of the

muriate of ammonia, in eight ounces of water, and immediately after this has been done, either with a soft sponge or by means of a syringe, a solution of the nitrate of silver in the proportion of ten grains to the ounce is to be applied over the whole surface of the inflamed conjunctiva. Under this plan of treatment the infant generally opens the eyes in two or three days, and in ten or twelve the acute symptoms are overcome. We have frequently seen acute recent cases of purulent ophthalmia cured in three or four days by introducing daily between the lids a portion of ointment composed of ten grains of nitrate of silver, twenty minims of the liquor plumbi diacetatis, and one drachm of adeps, or unguentum cetacei. With these remedies, local depletion and blisters may in certain cases be used. "In cases which have been neglected for perhaps eight or ten days, it is necessary to take away blood from the external surface of the upper eyelid by the application of a leech, or from the conjunctiva by scarification. The former may be tried in the first instance, and unless followed by marked abatement of the redness and swelling on the inside of the lids the conjunctiva may next be divided with a lancet. The taking away of blood in either of these ways is productive of much benefit, and ought by no means to be omitted, if there be any tendency to chemosis or any threatening of haziness of the cornea," (Mackenzie, p. 40-3.) Blisters are very serviceable, particularly in sub-acute or chronic cases: the bowels should be opened in the acute forms by calomel and castor oil. In threatened disorganization of the cornea recourse must be had to the extract of cinchona or the sulphate of quina. In the relaxed states of the conjunctiva which succeed to the disease, the topical application of the vinum opii is useful.

After free depletion, Ricord recommends the eyelids to be everted, and the solid nitrate of silver to be passed over the surface of the palpebræ, and afterwards more superficially over the ocular portion of the conjunctiva; after this the surface of the eye is to be cleaned by a syringeful of cold water thrown over it, with a view of removing any portion of the salt that may remain upon the cornea. In the intervals of the dressings the eye is covered with a compress, soaked in a decoction of poppy-heads, and applied cold. M. Ricord recommends also the application of the extract of belladonna to the temples and round the orbits during the treatment, with a view of preventing

any adhesions of the iris which commonly becomes affected, as well as other deep-seated structures of the eye. If the chemosis be great, he recommends a portion of it to be removed with a pair of curved scissors, a measure of which Dr. Mackenzie speaks also in very high terms.

Mackenzie, Lawrence, Brodie, Ricord, and Wallace admit a true gonorrhœal inflammation of the iris. This generally occurs in scrofulous patients labouring under gonorrhœa or gleet. Sometimes it succeeds to gonorrhœal inflammation of the conjunctiva or the sclerotic, or occurs with that peculiar species of rheumatism which sometimes accompanies a gonorrhœa. It very commonly alternates with affections of the joints, and an acute attack of synovitis frequently cures or very much relieves the inflammation of the eyes. The frequency with which this species of disease succeeds to mild gonorrhœal ophthalmia, and the facility with which adhesions of the iris take place, render it necessary that in the various forms of gonorrhœal ophthalmia we should adopt Ricord's plan of keeping the pupil dilated by the external application of belladonna. "This affection of the eye is exactly the same as rheumatic inflammation of the sclerotic and iris occuring independently of gonorrhœa. Both this and the mild purulent inflammation of the conjunctiva are to be regarded as rheumatic affections of the organ excited by gonorrhœa; that is, they take place in individuals in whom this constitutional disposition is shown by inflammation affecting either the synovial membranes or the fibrous structures of several joints." (Lawrence, p. 57.)

The treatment must consist, in the onset, of general and local bleeding, suited to the urgency of the symptoms; calomel and opium, so as rapidly to affect the system, and the application of the extract of belladonna. (Mackenzie.) Our chief reliance must be on mercury united with opium and antimony, and if there exist a rheumatic state of the system, colchicum and turpentine will be useful (Wallace.) Sir B. Brodie places great reliance on colchicum. As local applications, warm decoctions of poppy are generally most agreeable to the patient's feelings, on account of the intolerable pain that sometimes attends the disease. "When the inflammation is checked blisters may be advantageously employed, and the cure may be completed by the Plummer's pill, with mild aperients and regulated diet." (Lawrence.)

Primary Syphilitic Sores.—Though renouncing an indiscriminate mercurial treatment, most modern surgeons, more particularly those of this country, look upon mercury as the most powerful and certain therapeutic agent employed in a vast majority of both the primary and secondary forms of syphilis.

"Why," enquires Mr. Parker, "is mercury to be employed in the treatment of primary syphilis? To hasten the cicatrization of the ulcer, and to diminish the risk of secondary symptoms." The first point is established by the practice of most modern surgeons both British and foreign. Ricord, Desruelles, and Cullerier, all partizans of the simple treatment, recommend mercury when the sore is indolent, does not cicatrize under the simple plan, when its edges are hard and elevated, or the sore leaves behind it, in healing, an indurated cicatrix.

"If," says M. Ricord, "we calculate the cure of a chancre from the day the ulcer has cicatrized, without troubling ourselves about what may take place after, it will be sometimes apparently quicker by the simple treatment without mercury, and in the hospitals, the patients will be a less time under treatment; but if we date the cure at the period when all induration has disappeared, we shall find the difference enormously in favour of the mercurial treatment; the induration continuing in the first instance an indefinite period, and giving rise much more frequently to secondary or constitutional symptoms. I have recourse to mercury whenever a certain degree of induration accompanies a chancre, when it does not speedily cicatrize, or when the induration remains after its apparent cure.

Mr. Carmichael exhibits it under the following circumstances: 1st. In cases of the simple primary ulcer, when this does not yield to rest, the antiphlogistic treatment, and astringent washes. After the third or fourth week, Mr. Carmichael gives mercury in alterative doses with the same views that he would prescribe it for any indolent ulcer which was not venereal. This ulcer, amounting to nine tenths of the cases we meet with in practice, is characterised by its want of induration and phagedæna. 2dly. When the papular and pustular eruptions become scaly, and obviously on the decline, about the fourth or fifth week, and not yielding to sarsaparilla or antimonials, mercury is given in alterative doses with sarsaparilla. 3dly. In iritis, so as to produce its full effects upon the system. 4thly.

In cases of nodes with inflammation of the periosteum. In the phagedænic forms of primary syphilis, Mr. Carmichael believes mercury in all stages and forms of the affection to be a most deceitful and dangerous remedy. 5thly. For the primary sore, the Hunterian chancre, with hardened edges and base, the "chancre induré" of M. Ricord, and for the scaly eruption which attends it, as well as the deep excavated ulcer of the tonsils, nodes, and other symptoms belonging to this form of disease, mercury, in full doses, may be esteemed a certain and expeditious remedy.* M. Ricord, admitting as he does the uncertainty in which we still remain with regard to the particular kind of sore in which mercury should be exhibited, remarks that in this form the surgeon who omits the full mercurial treatment, ought to be considered responsible for the constitutional symptoms which are almost sure to succeed it.

The universal tendency of modern experience, then, is in favour of the mercurial treatment of this form of disease, and although this as well as the other forms of primary syphilis may get well without mercury, still the cure is uncertain and prolonged, and generally leaves behind it a hardened cicatrix, prone to ulcerate again. It is doubly important to heal this, as well as the other primary forms of syphilis, speedily, since it is incontestibly proved that the risk of secondary symptoms occurring is in direct proportion to the period a primary sore remains open; a primary sore closing with a hardened cicatrix is certainly not cured.

Mercury should not be given during the state of fever or local inflammation which may be present during the first days of venereal ulcers, nor till the patient is prepared for it by an appropriate regimen. It is also generally improper to use mercury during the ulcerating stage of chancre; it must be abstained from till the sore has become stationary and indolent, or till it assumes a disposition to heal.

The Local Treatment of Primary Venereal Sores.—In the majority of cases of simple primary venereal sores, during the first period, the nitrate of silver is the best application, and Carmichael, Ricord, Wallace, Key, Parker, and Mayo support this practice. Ricord and Carmichael both state that the sooner an ulcer which secretes a morbid poison capable of infecting the constitution is healed, the more likely is the consti-

* See Art. 58, page 172, of this vol.

tution to escape contamination. "When, therefore," says Mr. Carmichael, "a patient applied to me with an ulcer in its first stage, while yet excavated and secreting lymph, I instantly endeavoured to destroy its entire surface by a free application of lunar caustic; and I observed that when the eschar separated, I had in general the satisfaction of finding a simple sore instead of a poisonous one." (Dub. Med. Press, No. 67.) If the sore be much inflamed, the caustic is not to be used till the inflammation has been subdued by rest, aperients, general bloodletting if necessary, abstinence, and the mildest topical applications, as bread and water, or the turnip or carrot poultice, the liq. plumbi diacet. dilut., &c. &c.; should the ulcerative stage be passed, and granulations have sprung up under the treatment, which is sometimes the case, the nitrate of silver is of course to be omitted.

Mr. Key thinks mercurial washes in the early stages of chancre are peculiarly noxious. The morbid action is rather increased than allayed by them, secretion being rendered more copious, and the ulceration more inclined to spread. Ricord condemns the use of ointments generally in the ulcerating stages of chancre; some remedies are employed by him, Cullerier, Desruelles, &c. in the French hospitals, which are found highly useful in the earlier stages of chancre; amongst these may be mentioned the opiate cerate, and the aromatic wine with tannin or opium. The opiate cerate is composed of an ounce of the vinum opii to a pound of adeps, and is very useful as a simple dressing to irritable primary simple sores; a strong decoction of poppy, to which may be added some of the extract of opium, in the proportion of eight grains to the half pint, may also be employed. Ricord's favourite dressing is the aromatic wine of the French Codex; this is made by digesting four ounces of aromatic herbs (rosemary, rue, &c. &c.) in two pints of red wine for eight days. In certain circumstances, two scruples of pure tannin are added to eight ounces of the wine; and when a sedative application is wished for, half a drachm of the purified extract opium. The patient is directed to wash the ulceration with these applications gently, without making them bleed, and afterwards to cover the surface of the sore with some fine soft lint moistened with the wine, without making it too wet. To these local remedies M. Ricord attributes the effect of hastening cicatrization, of diminishing the secretion of pus from the surface of the sore, and by their astringent properties, acting upon

the surrounding tissues, of preventing the extension of the disease and the formation of fresh chancres, a circumstance very common with the ordinary modes of dressing.

To well understand the principles on which the local as well as the general treatment of primary sores must be conducted, the surgeon must constantly bear in mind the two phases of chancre, as established by Ricord and Dr. Wallace, and admitted by Mr. Carmichael and Mr. Key, and most modern writers. In the first stage we have to do with a specific sore, irritable, and poisoned, and poisonous, liable to be irritated by the least stimulus, whilst in the second we have a simple ulcer, destitute of all these characters.

There are some forms of primary sores to which Mr. Key recommends mercurial dressings in the ulcerating stage. These he employs not as a general rule but as the exception, in sores indolent not sensitive, and secreting but sparingly. Ricord also alludes to this species of primary ulcer, which he describes as indolent and stationary, and in which the secretion is dried up; in these circumstances the aromatic wine, with this exception almost universally employed by him as a general dressing, is to be abstained from, and the opiate cerate or emollient fomentations employed in its stead. We have been in the habit of treating this species of primary sore, which is frequently met with at the orifice of the urethra, by washing its surface with a weak solution of the chloride of lime, and then dressing it with some detergent ointment.

The indurated primary sore demands a treatment both local and general, in some measure different from the ordinary forms of the disease. This, "the classic Hunterian chancre" of Ricord, the indurated primary syphilis of Dr. Wallace, is the form of primary disease for which every author recommends a full mercurial treatment till the sore has healed without induration of the cicatrix. In our account of this species of ulcer, it must be recollected that we limit the expression "indurated" to an ulcer that is so from the commencement of the disease, and do not apply it to those sores which have become indurated from the repeated application of stimulating dressings.

Ricord recommends as a dressing to the simple indurated chancre a pommade of calomel and opium. Dr. Wallace also countenances this under the regulations laid down for the treatment of primary sores generally. If suppuration is abundant,

the sore is to be washed previously to the dressing with the aromatic wine; should the sore be irritable or inflamed and the ulceration disposed to spread, aqueous solutions of opium, anodyne fomentations, &c., must be used. The application of the nitrate of silver is not so beneficial in this as the other forms of disease, nevertheless both Ricord and Wallace advise its use. The former says "it modifies favorably the surface, and frequently arrests the spread of ulceration;" after the ulcerating stage has passed great advantage will be derived from the gentle application of the sulphate of copper. In the more decided chancre, i. e. the indurated sore of which we are speaking, Mr. Key thinks the "disposition to be set astray is less, and the syphilitic characters being more developed mercurial application agrees better with them, and may be applied with less apprehension of the ulceration extending.

Dr. Wallace gives some good diagnostic marks by which we are enabled to distinguish between the induration which is the natural attendant upon this species of sores and that which is produced in ordinary simple sores by the injudicious application of remedies. "We may always distinguish by the history of the case and by the character of the areola such indurated ulcerations as are connected with irritation or inflammation. Thus, if indurated primary syphilis be not attended by these morbid states it will not be surrounded by an inflamed but by a callous or livid white areola, with or without a whitish line at the very edge or margin of the ulcerated surface; or else the skin surrounding the ulcer will present its natural appearance.

The Phagedænic Ulcer.—The local remedies best suited to the different varieties of simple phagedæna are the nitrate of silver, either solid or in saturated solution, applied with a pencil; the pure nitric or nitro-muriatic acids, the white muriate of antimony, or a saturated solution of the oxymuriate of mercury in alcohol. In the sloughing or foul varieties of the simple phagedæna, Ricord recommends as very serviceable alternate dressings of the aromatic wine and a detergent ointment: the surface of these sores may be washed frequently with strong solutions of the chlorurets of soda and lime.

In the inflamed varieties of phagedæna with white or black slough Dr. Wallace thinks the application of the nitrate of silver hurtful, and in fact we should do well to observe what he says of its use in phagedæna generally, that used too long or

repeated too often it will produce consequences in some respects as unpleasant as those which result from an overdose of mercury. In the inflamed phagedæna with or without slough a purely antiphlogistic treatment, with anodyne fomentations and poultices, is the safest practice; leaving the application of stimulants and caustics till all local and constitutional irritation has subsided.

The irritable phagedænic ulcer demands a local treatment different from that of either of the before-mentioned varieties. Ricord and Wallace employ the nitrate of silver, the liquor arsenicalis, or the strong nitrous acid. These, however, frequently dispose the ulceration to spread, particularly where the sore is surrounded by a diffused areola. When this is the case the opiate cerate or strong aqueous solution of opium may be employed, whilst this remedy should be given freely at the same time by the mouth. Amongst preparations of this character Dr. Wallace speaks highly of mercurial ointment with ext. opii, a drachm of the latter to an ounce of the former, or the mel rosæ with laudanum. As a general application to these sores, in our own practice, we have succeeded better with turnip or carrot poultices than with almost any other form of remedy. There are, however, individual circumstances depending on the character of the sore, its degree of indolence, irritability, or inflammation, in which the remedies we have mentioned will find their application.

The writers before us are divided as to the propriety of the mercurial treatment in phagedænic primary syphilis, Mr. Carmichael agreeing with the French school in rejecting the remedy as most dangerous and deceptive in every variety of the disease.

Sir G. Ballingall, after an experience of many years, informs us in his recent work that he quite accords with Mr. Carmichael. Mr. Key, in his report of the primary syphilitic cases occurring at Guy's hospital, states that in the constitutional treatment of these sores mercury is wholly inadmissible.

We perfectly agree with these authors in condemning the use of mercury generally in phagedænic primary syphilis, yet we are of opinion, and the results of every day's experience confirm this opinion, that there are cases of this character frequently occurring in which mercury judiciously employed is our best remedy; and this is just the way in which Ricord

views the question, when, speaking of phagedænic chancres, he says (p. 573) "there are circumstances under which a mercurial treatment is followed by the best results, and this fact is constantly proved by the practice of those who avow the most deadly hatred to mercury." It remains, however to be determined what are the forms of phagedæna in which mercury may be employed with advantage. Ricord thinks it impossible in the present state of science to point out with certainty what these circumstances are. If the disease continues to advance in spite of the usual remedies judiciously employed, as a sort of forlorn hope he has recourse to mercury, first in form of local application and subsequently by the mouth or friction. He is regulated in the continuance of the remedy by the effects produced, continuing it if the disease appears inclined to yield, or giving it up should it still continue to extend. Mr. Lawrence, whilst he condemns the indiscriminate use of mercury in phagedæna, believes there are circumstances in which it may be employed with advantage, though he, like Ricord, does not seem able to point out what these circumstances are.

The recorded experience of most modern writers on syphilis, to whatever school they may belong, proves that there are constantly occurring cases of phagedæna so intractable under the ordinary treatment that mercury is fled to as a last resource, and there are many of these in which it is perfectly successful.

Dr. Wallace has endeavoured to discriminate between those forms of phagedæna in which mercury should be used and those in which it should be abstained from: he believes that all the varieties of phagedænic primary syphilis have hitherto been very much confounded together, to the injury of the patient and the confusion of the practitionef.

In the irritable variety of simple phagedæna without slough, mercury is to be interdicted. Dr. Wallace believes that in this form of the disease the remedy is always injurious, and if persevered in produces an increase "of irritability local and general, and hectic and secondary symptoms of a very unmanageable kind may result." In this form conium, hyoscyamus, opium, and Dover's powder, but more particularly opium, locally and generally, are the chief remedies to be relied on, with sarsaparilla in conjunction with the iodide of potassium, or the mineral acids, or Mr. Carmichael's favorite remedy, the cold compound or simple infusion of sarsaparilla in lime water. It is in these

cases that Mr. Lawrence also thinks sarsaparilla most beneficial. In the three forms of phagedænic syphilis without slough, Dr. Wallace recommends a full course of mercury in the first or simple form; an active antiphlogistic treatment to precede the mercurial treatment in the second or inflamed variety; and measures calculated to tranquillize the system in the third or irritable.

In the "simple phagedænic primary syphilis with white slough," Dr. Wallace recommends mercury to be freely exhibited, "wherever it may be seated and of whatever extent it may be." With the constitutions, however, in which this sore occurs mercury is very apt to disagree.

The characters of the "inflamed phagedænic primary sore with white slough," are a slough of white colour at the junction of the sore with the living parts, which parts are in a state of inflammation. The distinctive character of the sore is to be drawn from the colour of the slough at the junction of the ulcerative with the living parts, and not from the colour of the slough on other parts of the sore, since these occasionally become black or green from the exposure of the surface to the atmosphere. The first indication in the treatment of this sore is the reduction of the inflammation by an active antiphlogistic treatment, employed, according to the circumstances of the case, generally and locally. We would beg, however, the attention of the reader more particularly to the point we are now endeavouring to make more clear; viz. the indications for the use of mercury in the different forms of phagedæna; and with respect to the sore under notice Dr. Wallace states that he has ascertained "an important fact,—that mercury, if given in full doses, or so as to produce rapidly its effects on the system, will control, even in its most inflamed state, the progress of the phagendænic disease just described.

In the "irritable variety of phagedæna with white slough," Dr. Wallace also thinks a short but full course of mercury the best remedy, if the case have not been previously mismanaged. When it is used it must be very carefully watched, and combined with large doses of opium, Dover's powder, cicuta, hyoscyamus, sarsaparilla and the carb. of ammonia, whilst the local treatment must be anodyne and unstimulating.

The "simple primary phagedæna with black slough" of Dr. Wallace is analogous to the sloughing ulcer of M. Bacot, and

is evidently merely a variety of the true Hunterian chancre, an indurated primary sore with a dark or livid coloured slough. Its characters are "much greater induration of the surrounding parts than any of the other forms of primary phagedæna, scarcely any inflammation, and attended by very little sensibility." Dr. Wallace states that it requires directly any other form of treatment than the regular primary disease. It is often very much benefited by the internal employment of the nitrous or nitro-muriatic acids; but "the actions of reparation and perfect cicatrization may be produced in it with much more certainty, in a much shorter time, and with less expense to the constitution, by a mild and well-regulated course of mercury than by any other means.

The two remaining forms of phagedæna are the inflamed irritable varieties with black slough, the sloughing phagedæna of authors generally, the gangrenous ulcer of M. Bacot, and the "chancre phagédenique gangreneux" of Ricord. In these forms all writers agree in condemning the use of mercury; the disease is to be treated on the principles which should regulate us in the management of similar diseases arising from causes not syphilitic.

Treatment of Constitutional Syphilis.—The phenomena of constitutional syphilis are divided by M. Ricord into secondary and tertiary.

Secondary symptoms, or those of general infection, arise when the venereal virus has undergone some degree of modification by being mixed with the blood and thus producing what M. Ricord terms the "syphilitic temperament." Secondary syphilis attacks the skin, the mucous membranes, the eyes, the testicles, &c. The great peculiarities to be observed in these forms of the disease are that they are not capable of being transmitted by inoculation, but from parent to child by hereditary taint.

Tertiary symptoms appear at an indeterminate period, succeeding the primary disease, but commonly not till a long period after this has been cured, and in a majority of instances not till after secondary symptoms have appeared, or whilst they are still present. The tertiary symptoms are nodes, tubercles of the skin or cellular tissue, periostoses, exostoses, diseases of the bones and fibrous system generally, and many internal affections not clearly defined. The tertiary symptoms are

neither capable of propagation by inoculation nor of transmission by hereditary taint—at least under any specific form of venereal affection.

It is in this latter class of affections that M. Ricord thinks the iodide of potassium so worthy of confidence.

He believes the probability of the occurrence of secondary symptoms to be in some measure in proportion to the time that the primary sore remains open. He has never seen a case in which the primary sore healed in five days has been followed by secondary symptoms; hence, says M. Ricord, the best rule that can be given for the prevention of secondary symptoms is the radical cure of the primary disease, without induration of the cicatrix, in the shortest space of time possible. And for this purpose he speaks with more confidence of mercury than of any other remedy, but considers it valuable rather as a remedy calculated to cure the primary disease than to prevent the secondary.

It is to a mercurial treatment in confirmed constitutional syphilis, says M. Ricord, that we must give the preference, provided there are no contra-indications. The deductions made by M. Humbert from the results of M. Biett's practice at the hospital St. Louis, are—That of all remedies mercury is the most efficacious in curing constitutional syphilis which exists without acute inflammation, but that it is better abstained from in irritable subjects, feebly constituted. It cannot be denied, continues M. Humbert, that the preparations of mercury cure confirmed secondary syphilis more frequently than any other remedy. Mr. Mayo says, "of the remedies for constitutional syphilis, mercury is so far the most important that it is the only one, however rarely it may be necessary to use it with this object, through which the immediate extinction of constitutional lues can be anticipated; and that besides as a repellant of the disease, it is one of the most efficacious." (p. 61.)

The preparation of mercury chiefly employed by M. Ricord in the treatment of constitutional lues is the proto-ioduret, the hydrargyri iodidum of the London pharmacopœia. He commences with one grain for a dose, combined with opium, and carries it as far as six in the day, but does not exceed this quantity. Cullerier prefers the iodide in the constitutional forms of the disease, administering it, at the venereal hospital, in the proportions of half a grain night and morning, combined

with opium and guaiacum. In Biett's hospital, the St. Louis, the bichloride is generally preferred in very small doses, and this was Dupuytren's favourite remedy.

Wallace, Ricord, Cullerier, and most other surgeons have lately employed the iodide of potassium largely in the various forms of constitutional syphilis. Ricord (Gazette des Hôpitaux, March, 1839,) has established that its results are most happy in the tertiary forms of disease, in affections of "Mr. Hunter's second order of parts," in which he considers it the remedy "par excellence." Iodine of itself is a powerful anti-syphilitic, but, unless in a state of combination with mercury, is inadmissible in the treatment of the simple primary forms of disease. The iodide of potassium is chiefly employed by Cullerier in chronic syphilitic affections of the testicles, and of the inguinal and cervical glands, also in cutaneous affections and diseases of the fibrous or osseous systems which are of syphilitic origin. M. Cullerier thinks the effects of the iodide of potassium are less prompt than those of mercury, and hence when the stomach bears it well it requires a longer employ. He exhibits one grain of iodine with from two to four of the iodide of potassium dissolved in one ounce of water, and given at intervals in any convenient vehicle during the day. He does not increase the quantity of iodine beyond two grains in the day, nor that of the iodide of potassium beyond ten.

The most complete account of the mode of administration of the iodide of potassium and its effect on different forms of constitutional syphilis is that given, from the results and experiments made by Ricord, in the Gazette des Hôpitaux, for March 19, 1839. M. Ricord employs the iodide of potassium in gradually increasing doses, commencing with ten grains dissolved in three ounces of distilled water, and given at intervals during the day in any convenient vehicle. This quantity may be increased or diminished according to the effects produced; when the remedy agrees, which it most commonly does if the the stomach be healthy, the dose is increased ten grains every two or three days till it is carried to a drachm, a drachm and a half, or even more, in the course of the day. The iodide of potassium, in full doses, occasions a sensation of warmth in the stomach, improves the appetite, accelerates digestion, and quickens the pulse; a common and almost constant effect is a great increase in the secretion of urine. Sometimes it produces

a ringing in the ears, a slight pustular eruption or diarrhœa. When these occur the dose must be diminished or the remedy abandoned altogether for a few days, till these symptoms have passed away: its use is then to be recommended in smaller doses than before."

M. Ricord mentions the syphilitic deep-seated tubercle as the first disease in which he has extensively tried the iodide with success. The original seat of these tubercles, Mr. Babington says, is in some structure below the surface of the cutis, probably in the sebaceous glands. Ricord speaks merely of this disease as deep-seated tubercle; it belongs to his third order of parts, is prone to inflame and ulcerate, and terminate in the formation of foul, spreading, destructive sores. Before the tubercles have become inflamed or softened, whilst they are still indurated, M. Ricord has constantly succeeded in dispersing them by means of the iodide of potassium with small doses of the iodide of mercury. He employs the iodide of mercury in one grain doses, with three, four, or five of the ext. conii, and the iodide of potassium in gradually increasing doses. The mercury is rarely continued for a long period, and very commonly M. Ricord makes use of the iodide of potassium alone. When the tubercles have become ulcerated, M. Ricord still relies upon the iodide of potassium as his principal remedy. The local treatment, however, is of great importance, and must be directed under the views which would regulate us in the management of primary venereal sores.

M. Ricord thinks that mercury is generally inefficacious in the tertiary forms of syphilis. M. Biett has found in his extensive opportunities for observation, that mercury did not produce any marked effect over the syphilitic tubercula. He mentions some cases treated successfully by the arseniate of soda.

The tubercular forms of syphilis commonly occur in conjunction with very considerable disorder of the general health, and it is scarcely necessary to notice again the stress laid by all the authors before us on the propriety and indeed absolute necessity of attending to this before any specific treatment is adopted.

Amongst other forms of disease more particularly benefited by the iodide of potassium, M. Ricord mentions nocturnal pains in the bones, and diseases of the bones and periosteum. With respect to the former, when they have been fugitive they have generally yielded to the iodide: when localized for a lon-

ger or shorter period, this remedy, in conjunction with blisters over the affected parts, has most commonly succeeded. M. Ricord believes nocturnal pains in the bones to result from a true inflammation of the osseous tissue, from syphilitic taint, and hence he considers these pains as the first symptoms by which such disease is characterized. These pains are commonly attributed to the prolonged or excessive use of mercury, but M. Ricord frequently meets with cases of diseases of the bones and periosteum in various stages at the venereal hospital in patients who have not taken a grain of mercury, and who have had chancre as a regular antecedent of the disease. Here, as in syphilitic caries, M. Ricord relies chiefly upon the iodide of potassium; he believes that mercury is generally injurious, at least he has abandoned its use, and succeeds better with the iodide. The iodide of potassium merits, in M. Ricords view of its properties, in the treatment of the tertiary forms of syphilis, all the confidence that mercury has obtained in the treatment of the secondary, to which forms M. Ricord considers the iodides of mercury are particularly adapted.

We shall take this opportunity of mentioning M. Lucas Championnière's account of the plan adopted in the venereal hospital of treating buboes with blisters and a strong solution of the bichloride of mercury. This plan, originally proposed by M. Malapert, a French army-surgeon, consists in applying a small blister over the centre of the tumour, the next day removing the epidermis which has been raised by the blister, and applying a small compress over the denuded surface, soaked in a solution of the bichloride of mercury in the proportion of twenty grains to the ounce, this compress is kept in place by straps for two hours and is then removed; at this period an eschar involving the skin to a greater or less depth is formed, which on separating leaves the bubo very much diminished in size, and is generally followed by its total disappearance. After the eschar has been formed, the swelling may be covered with a cold lotion or poultice. This plan of dispersing a venereal bubo has now the sanction of very great experience drawn from its successful employment in the French army, and for seven years in the great Civil Venereal Hospital under the direction of Cullerier and Ricord. Cullerier speaks in very positive terms of this remedy from his own observations of its utility, and it remains for us merely to indicate those circum-

stances in which it is most likely to succeed. It is well known that the sympathetic bubo, succeeding to gonorrhœa, is not so prone to suppurate as that following chancre, and here M. Ricord prefers attempts at dispersion, to be made first by pressure with the ammoniacum and mercury plaster; if these do not quickly accomplish their object, or the tumour tend to increase, the blister with caustic is used. In all forms of the venereal bubo, except where matter has actually formed, or the surface is very much inflamed, it may be employed. Resorted to early in the disease, Cullerier states that he does not recollect seeing it fail in producing a total dispersion of the tumour.

British and Foreign Medical Review, Oct. 1840, *p.* 382—420.

106—PRACTICAL HINTS ON THE TREATMENT OF STRICTURE OF THE URETHRA.

By Bransby Cooper, Esq. F.R.S., Surgeon to Guy's Hospital.

[The remarks of this truly practical surgeon, in the *Guy's Hospital Reports,* for Oct. 1840, form an interesting appendix to the 53rd article in our first number, by the same author. We there gave a condensed account of his views on some important points of practice, and we now add what he further states on the same subject. He says,]

It must be continually borne in mind, that all danger is not obviated by the avoidance of force; for the gentle use of the instrument may produce equally bad effects, if it be injudiciously handled. On first examining the stricture, either a silver catheter or a bougie may be used for the purpose of ascertaining its seat and condition. No. 6 is the best sized instrument for this object: it is nearly of the size of the urethra, and is much less likely than a smaller one to get entangled in the lacunæ of the canal. When the instrument is first passed down to the stricture, gentle pressure should be exercised, and, if its passage be resisted, should be continued for a few minutes. If the obstruction be owing to muscular spasm, continued pressure of three or four minutes will be sufficient to overcome the contraction: if after that time, however, the obstacle does not yield,

its persistence evidently depends upon the density of an adventitious deposition. Where, in such a case, no great pain is experienced by the degree of pressure hitherto employed, and no bleeding occurs, force may be used, to the full extent considered safe by the surgeon: but if this is still ineffectual, no further mechanical means should be had recourse to (unless the bladder be much distended and the symptoms of retention urgent,) but leeches to the perinæum and a purgative draught should be prescribed. It generally happens, in cases of no very long standing, that great benefit is at once derived from this treatment; and I have frequently seen the patient recover after it has been adopted for three or four alternate days; but in cases of older date, great difficulty of micturition is often found to remain, in spite of it. To combat this symptom, the application of the bougie should be continued; as it is now ascertained that the difficulty of directing the instrument into the bladder depends upon the density of the stricture, and not upon muscular contraction. A new indication now therefore presents itself, viz. the removal of the adventitious matter: this is most readily effected, by maintaining an equable degree of force upon the surface of the stricture, which induces inflammation and softening-down of the newly-formed substance. In the course of a few days, suppuration will be found to have been set up; after which, five or six repetitions of the application of the instrument will be sufficient to effect its passage through the obstruction; and thus will be performed a cure of stricture in what I may term its second stage.

It is in this second stage that the precaution which I have alluded to above is necessary; for it is requisite to be as cautious with respect to the precise direction given to the instrument when thus gently applied, as when force is used to push the catheter or sound into the bladder; inasmuch, as without proper attention to the direction of the instrument, a false passage is as likely to be produced in the one case as in the other. If gentle pressure be repeatedly made against the side of the urethra, instead of upon the stricture itself, the mucous membrane naturally yields to the continued application of the instrument; and a new passage is gradually produced, which by violence is frequently effected at once. When an opening has thus been formed in the urethra, it is not a necessary consequence that any train of symptoms should at once point out

the error which has been committed. On the contrary, from the comparative facility with which the instrument passes onwards towards the bladder, the surgeon fancies, at first, that he has overcome the true source of obstruction, and indeed frequently succeeds in reaching the bladder with his instrument, having pushed it again into the urethra, or through the prostate gland: a flow of urine then ensues, which gives him reason to suppose that the cure is complete. On the other hand, however, the urine is sometimes extravasated, as soon as the false passage has been made; an abscess is formed in the perinæum; and all the symptoms follow inseparable from such a state of things, requiring at once the laying open of the perinæum, and the evacuation of the extravasated urine; and leading to the abandonment of the gentle mode of treatment, for the cutting through of the permanent stricture,—an operation which I have before described.*

In cases where a lengthened false passage has been made into the bladder, and where no extravasation of urine has followed, it becomes very difficult for the surgeon to ascertain, with certainty, that the fistulous passage exists: and I believe that this can only be done by those who are in the habit of frequently passing instruments into the bladder. As, however, such passages are frequently made in the upper region of the urethra, their false course may be ascertained from the fact, that a straighter instrument than the one usually employed will pass through them with facility; and that when in the bladder, the instrument wants the freedom of motion exhibited by the catheter, which has been passed through the urethra only. If the false passage has been made in the lower part of the urethra, the instrument will be found to move in the segment of a larger circle than usual; and its escape from the urethra can always be ascertained by passing the finger into the rectum. False passages of the lower region are generally the result of the forcible use of the instrument for strictures in or near the bulb; while those of the upper part are a consequence of the continued pressure made upon the obstruction, with the penis drawn forward to fix the point of opposition. In both of these cases, although the patient, from the absence at first of any difficulty in emptying his bladder, may imagine himself permanently relieved, he is doomed to be very quickly disappointed: should

* See page 163, article 53.

the surgeon allow only a few days to elapse without passing the instrument, the obstruction to its progress, and the difficulty in voiding the urine, recurs; for the new canal is incapable of remaining many days pervious, without the frequent passage of the catheter; unless, indeed, a mucous lining membrane is formed within it; to produce which, a considerable length of time is necessary. A case of this kind occurred to me; in which, after having passed the instrument for several weeks, in the belief that I had re-established the natural canal, it at length, on a sudden, took a new course into the bladder; and this proved to be through the natural urethra. Probably this took place from the stricture having been spontaneously cured by the removal of the irritation from the urine, which for some time previously had passed through the new canal. The patient subsequently suffered no inconvenience from the false passage which had been made; nor had I ever, after the discovery, any difficulty in passing the instrument into the bladder through the natural canal. I cite this case, not because I believe it to be of rare occurrence, but merely because the discovery of it is uncommon. I think, indeed, these false passages to be so frequent, as to be present in most of those cases where difficulty of passage continues whilst the patient is under treatment: at all events, post-mortem examinations of the urethra, in cases of stricture, show that these deviations from its natural course are extremely common.

In cases of stricture which resist the application of the common bougie or catheter,—for sometimes, owing to the great density of the adventitious substance, these instruments will not succeed in causing the latter to soften down, even though they may be used for several days or even weeks in succession,—in such cases, the caustic bougie must be had recourse to; not merely as an escharotic, to decompose the part, but that it may, by its peculiar action, induce inflammation, softening down, and suppuration. A successful result generally follows a few applications of this instrument: and although in some cases it may be delayed, I have never seen it fail to produce, sooner or later, a beneficial effect. There are occasions in which its efficacy is exhibited with singular rapidity. For instance, in a case of obstinate permanent stricture, for which I had been for several weeks attempting to pass instruments without success, I at last easily succeeded in introducing a catheter into the bladder, after

passing eight times only the caustic bougie; and the patient ultimately recovered, and has never had any recurrence of the disease.

The caustic bougie is also of the greatest benefit in irritable stricture, which is always attended with bleeding on the gentlest application of the instrument, and with frequent sudden spasms, occuring without any apparent cause, beyond slight exposure to cold and damp, or some excess in the use of wine or spirits, and which render micturition difficult. I need scarcely observe, that the cautions I have described above, as to the precise application of instruments to the stricture itself, are most especially to be observed in making use of the caustic bougie; or that a false passage is very likely to be produced, if it be made to press and act on the urethra itself, instead of on the adventitious matter.

With respect to those cases where the symptoms are urgent, I have already expressed my conviction of the propriety of forcing a catheter into the bladder when the stricture is posterior to the deep perinæal fascia, and of laying open the membranous portion of the urethra when its seat is about the bulb, though it may not in the latter case be attended with greater severity of symptoms. I have also described the mode in which I have usually performed this latter operation.*

[Interspersed amongst these remarks are very interesting cases, which practically prove the truth of every thing Mr. Cooper advances. Five very interesting cases are given in which the posterior parts of the canal were laid open, the operative proceedings of all of which may be elucidated by the following observations relating to Mr. F., a native of Barbadoes, who came to England expressly for the purpose of putting himself under Mr. Cooper's care.]

Upon examination, I found the perinæum and scrotum much enlarged, indurated, and perforated by three or four fistulous openings, through which his urine partly passed, but in part it dribbled from the natural passage. On attempting to pass an instrument, I found the urethra impervious; the obstruction commencing about three inches from the orifice, and resisting every attempt I made to force the instrument through it: and

* See Article 53.

I therefore explained to the patient at once the necessity of performing an operation, as the only hope of effecting a permanent cure.

The patient being placed upon a table, and secured as for the operation for the stone, I made an incision into the perinæum; commencing from a fistulous opening in the scrotum, and extending it in the course of the raphe, close to the anus; thus completely laying open the perinæum. I now tried to force a catheter through the stricture; being less afraid now of doing injury by violence; as with my finger, in the incision I had made, I should have been able to prevent the instrument tearing the urethra beyond the obstructed part. I could not, however, succeed in this attempt; and therefore proceeded to open the membranous part of the urethra, which I found difficult, from the depth which the perinæum had acquired, from the deposition of adventitious matter. I succeeded, however, in passing a female catheter into the bladder, and drawing off the urine which it contained; and having now completed the great object of the operation, I proceeded again to overcome the obstruction in the urethra; and this I effected, by passing a sound into the stricture; and then directing the knife upwards from the perinæum, I cut through the substance which intervened between the point of the sound and the knife, until I felt the two instruments in contact, when, with slight pressure, the sound passed forward, and, upon withdrawing the female catheter, was introduced into the bladder. A silver catheter was now substituted for the sound, fastened in the bladder, and the operation completed. A considerable quantity of blood was lost during the operation, which was borne by the patient with a fortitude I had never before witnessed.

When placed in bed, an opiate was immediately administered; and he remained as well as could be expected until the evening, when a slight rigor came on. A coagulum passed from the bladder, with some urine; when he again became quite comfortable, and passed a quiet night.

From that period up to the present moment, I may say not a single untoward symptom has occurred: no difficulty has ever been experienced in passing fresh instruments into the bladder; and a No. 12 elastic-gum catheter was substituted for the silver one within ten days of the operation; No. 16 being the size which is now employed. No urine has passed through

the perinæum for the last fortnight; the wound is nearly healed; the scrotum has resumed its natural size and condition, and the fulness about the perinæum nearly removed.

Guy's Hospital Reports, Oct. 1840, *p.* 251—269.

107.—ON PHIMOSIS.

By C. A. Key, Esq., Senior Surgeon to Guy's Hospital.

[In Mr. Key's interesting report of syphilitic cases published in *Guy's Hospital Reports*, we find some most sensible and practical remarks. His paper in the last number of these reports, for October 1840, is on phimosis. He first endeavours to show us that Hunter's opinions have been frequently mistaken—that he was not what is called a confirmed mercurialist, giving mercury indiscriminately and in large quantities in all cases of syphilis. Mr. Key says:]

I cannot, however, see in his writings any grounds for supposing that he recommended mercury to the extent of which he is accused: and though time has added both to our pathology of syphilis, and to our catalogue of remedies, his practice seems closely allied in principle to that of the present day.

It is a want of due attention, in the perusal of his writings *as a whole*, and of a due conception of his meaning, that has led us to consider him as a dangerous mercurialist. Probably, if the modern surgeon were closely and accurately to compare his practice with that of Mr. Hunter, the difference in the mode of wielding this formidable remedy might not be found to be great.

[Mr. Key makes the following excellent remarks on phimosis.]

One of the most common forms of phimosis is that which arises from a cluster of sores surrounding the extremity of the prepuce. They usually begin as small aphthous chancres, sometimes accompanying, though probably not depending on gonorrhœa. They rarely exhibit throughout their course any signs of a very virulent poison, but possess the negative character of the aphthous sore, with the exception of the indurated

base, which they always have, and which is caused by the loose reticular texture of the preputial fold. These sores yield to the same treatment as the common aphthous chancres; and, when healed, usually leave the prepuce in a state sufficiently pliant to relieve the phimosis.

Any sore, accompanied by inflammation, may become the occasional cause of phimosis: but there are two conditions of phimosis that more especially involve considerations of importance; that in which a well-developed chancre occupies a large portion of the extremity of the prepuce; and a sloughing, or phagedænic state of sore, endangering the glans.

A large preputial chancre of the prepuce will sometimes involve so large a part of the extreme fold of skin, as to render it impossible to retract the prepuce while the sore remains, and improbable that the cicatrix will permit it to be drawn back when the sore is healed. The first thing that suggests itself, is the removal of the diseased portion of prepuce, and the substitution of a healthy for a diseased surface. The object, however, that is thus looked for is not obtained. In a few days, as soon as the inflammation caused by the operation is abated, the aspect of the cut surface begins to change, and gradually acquires the same character as the original sore. If the latter be phagedænic, and covered with a dense white slough, the incised part shows no disposition to granulate, but ulcerates at the edge, and exudes on its surface a layer of loose unhealthy fibrine. If the chancre has been in the stage of granulation at the time of the operation, the cicatrization of the incision is arrested by the granulations assuming a specific character; their edge being raised and hardened, and their base more or less indurated. If, from an actively-spreading state, the sore be brought back by a course of medicine to a healthier condition, in which granulations seem disposed to rise, the cut surface will show the same toward disposition, unless much blood be lost by the operation, or much irritation succeed its performance. It seems, that whatever character the original sore may possess, it is transferred, probably by a continuity of action in the vessels, to the incised part.

It is therefore unadvisable to cut away a portion of prepuce in a state of active phagedæna, or even when ulceration has stopped and has left the surface covered with a white slough.

[In many cases] the excessive action seems to have nothing of a specific nature: it appears to be common attack of inflammation, ending in gangrene, the poisoned sore acting merely as an exciting cause; for as soon as the slough is cast away, the sore puts on a healthy appearance, and heals quickly under the application of astringent dressings.

When the inflamed part is under the influence of the specific poison, the operation of dividing the prepuce, instead of staying it, as it does in the case of simple gangrene, seems for a time to increase it, by adding to the inflammation. Exposure of the sore, however, is indispensable, for the preservation of the glans; and should be performed as soon as the unhealthy nature of the sore is ascertained. This can be known by observing the nature of the discharge; which changes from the common secretion of chancre to a dirty reddish or brown fluid, mixed with fine shreds of white slough. The nature of the secretion may of itself determine the propriety of dividing the prepuce; but more especially will it be required, if there be also much inflammation proceeding beneath the skin. The best dressing for sores of this phagedænic character are the balsams, or turpentine, with the addition of opium if severe pain or extreme irritability demand it. When they are disposed to bleed, warm olive-oil, mixed with an equal part of turpentine, checks the hæmorrhagic tendency, without increasing the inflammation or irritation of the part. This application is most efficient when the specific action does not predominate, and agrees best with a sore in which the action approaches to the black slough. When the phagedænic action is maintained by a high degree of local and general irritability, equal parts of Peruvian balsam and the sedative solution of opium form a most effective application. When the part can bear it, lint steeped in equal parts of port-wine and tincture of opium will sometimes check the ulceration, and induce a healthy surface.

The operation for phimosis presents but little choice; the mode of exposing the glans must be regulated by the state of the prepuce, and by the situation of the sore that is required to be exposed.

The main point in practising, is, to extend far enough the division of the inner layer of skin: and when circumcision is first performed, advantages will be obtained, by turning back

the angles of the divided inner layer, and uniting them, by means of very fine sutures, to the edge of the outer layer of skin. This proceeding shortens the process of cicatrization, and lessens the deformity.

Guy's Hospital Reports, Oct. 1840, *p.* 185—196.

108.—OPERATION FOR THE RADICAL CURE OF REDUCIBLE INGUINAL HERNIA.

By Bransby Cooper, Esq. F.R.S., Surgeon to Guy's Hospital.

[John Holman, aged 22, had for many years been troubled with a reducible inguinal hernia, which gradually increased in size and which no truss could keep up. On his admission into Guy's Hospital, Mr. Bransby Cooper thought it an excellent opportunity to perform the operation as recommended by M. Gerdy, not only on account of the large size of the abdominal rings, but also from the active duties of the patient, who was employed on the Greenwich railway.]

On the 10th of June, the patient was brought into the operating theatre, and laid upon a table, on his back, with his chest and thighs raised, for the purpose of relaxing the abdominal muscles. Mr. Cooper then commenced the operation, by pushing a portion of scrotal integument before the forefinger of his left hand, through the external ring, into the inguinal canal, as high as he could pass it; and upon the finger he then introduced a director. A long needle, fixed in a wooden handle, and having the eye, near its point, armed with a double silk ligature, was then carried along the director to the very extremity of the invaginated skin, and was pushed through the tendon of the external abdominal oblique muscle and the skin, so as to make its appearance an inch and a half above Poupart's ligament: one end of the silk was then retained by an assistant, and the needle drawn back again into the inguinal canal, along the other end; when it was again pushed through the abdominal parieties, in a similar manner as before, about four lines distant from the other end of the thread, including necessarily so much of the skin between the two silks; which were

now tied over a piece of bougie, so as to retain the invaginated portion of skin within the inguinal canal. A piece of lint, wrapped around a director, and dipped in liquor ammoniæ, was passed into the cul-de-sac of skin thus formed; and the surface well rubbed with it, in order to remove the cuticle, and promote an inflammation in the cutis, so as to obliterate this integumentary canal, and to form a plug sufficiently firm to prevent the future descent of the hernia.

The application of the ammonia caused intense pain.—The patient was now taken to his bed, placed in the same position as before the operation, and the scrotum well supported. An hour and a half after the operation, as great pain was still complained of, a grain of opium was given, which afforded but little relief. At nine in the evening, Mr. Cooper saw him; at which time there was great distress of countenance, profuse perspiration, and the pulse quick, but compressible; and there was not any pain produced by pressure on the abdomen.

13. Had passed a good night's rest, without the aid of sedatives: the discharge more copious, and bearing the character of pus. The scrotum was strapped up, so as to press against the margin of the opening from the invaginated portion of skin.

14. The ligature was removed, as purulent discharge was now most freely established; but the pressure on the part was desired to be continued, and every thing seemed to be going on favourably. But on the next day there appeared a degree of fulness about the margin of the opening, as if a portion of the inverted skin had descended; but without any descent of intestine, and the hardness and swelling about the inguinal canal still led to the reasonable hope that the operation would prove successful. In this state he continued for several days, until the tenderness abont the inguinal canal had sufficiently subsided to allow of a greater degree of pressure being made upon the part; the patient being still kept in the recumbent posture.—After that time all uneasiness had left him; and the patient described that he felt the affected side as firm as the other; which the thickening in the course of the canal seemed to justify. On the 4th of July, a weak truss was adjusted to the part; and he was still desired to remain in bed; which he did for ten days more, when we could no longer keep him in bed. He remained yet a fortnight in the hospital, wearing his truss, and walking about without any descent of the hernia

occurring; and left Guy's at the end of July, to resume his occupation on the rail-road, with the promise of being, at first, put only to slight work.

Guy's Hospital Reports, Oct. 1840, *p.* 270—275.

[The patient had indeed a slight return of the hernia which might be attributed to the truss given him being too weak. A stronger one however, completely succeeded in keeping up the bowel: while formerly, no means whatever were available for that purpose. Upon the whole, Mr. Cooper thinks the case a very successful one.

The following is M. Velpeau's method of operating for the radical cure of hernia. It differs somewhat from the foregoing method of Mr. B. Cooper.]

The method which he practised twice at the Hospital la Charité last July, is composed of three distinct parts: of scarifications of the interior of the sac, and particularly of the internal opening of this sac; of a compression of the whole length of the inguinal canal; and of a sub-cutaneous incision. The scarifications he borrowed from the ancients, or rather from what he had himself advanced in the year 1832, since from that time he had placed great confidence in them, and had only discontinued their employment when he perceived danger was likely to accrue to the patient from the opening of the sac. These dangers seemed no longer probable, when M. Guérin, giving the hint of the possibility of penetrating the bottom of the cavity by a simple punction of the teguments, expressed in his memoir his desire of practically applying the method of sub-cutaneous incisions to the radical cure of hernia. In this manner M. Velpeau has practised the necessary scarifications. As for the compression, he applies it not only to the external ring of the inguinal canal, as the bandages are generally applied, but over the ring of the canal and the canal itself, M. Velpeau employs the celebrated bandages of M. Fournier de Lempdes, which, he states, have frequently sufficed for the radical cure of hernias. Thus the punction advocated by M. Guérin; scarifications in the interior of the herniar sac, in the inguinal canal, and in the iliac fossa; a compression by means of the bandages above named;—this constitutes the new method adopted by M. Velpeau.

This surgeon successfully operated on a patient in the following manner:—he first introduced the forefinger into the ring of the great oblique some lines in depth, forcing the integuments before it; a lancet, passed over the nail of this finger, was pushed obliquely as far as the iliac fossa; then drawing his finger out of the inguinal ring, M. Velpeau brought the edge of the instrument against the iliac walls of the abdomen, which he supported with the other hand, and then scarified them in several parts, forwards and inwards, but taking particular care to preserve a safe distance from the epigastric vessels. The lancet was then taken out precisely from the wound made at its entrance, and the operation was completed. Only a few drops of blood issued from the wound. The patient was placed in bed, and no accident supervened; while the slight wound cicatrized the next day. Fournier's bandage was applied, and the man has since walked and acted as if never afflicted. Some time subsequently, however, a second hernia ensued, and this patient, who had many objections to the first operation, came voluntarily to ask for a similar. He was again practised on, and at the end of ten days he was convalescent. This young man has since been perfectly well, and has remained as a book in the hospital, to show the radical cure to the visiting surgeons.

Provincial Medical and Surgical Journal, Nov. 14, 1840, *p.* 116.

109.—OXYMURIATE OF MERCURY IN STRUMOUS OPTHALMIA.

By John Hamilton, M.R.I.A., &c.

[The author of this interesting paper first refers to the ordinary treatment of this obstinate disease, such as the use of some of the various tonics, bark, quinine, columbo, rhubarb, the preparations of iron, of iodine, and particularly of hydriodate of potass: mercury, leeches, blisters, issues, the citrine and other ointments, vinum opii, zinc, nitrate of silver, lead, &c. &c., and states that although the disease is often cured by some of these various means, the case is often protracted and troublesome in the extreme. He says:]

The conviction on my mind is, and I trust I shall not be thought by practical men to overstate the fact, that the effect of the usual treatment, is certainly slow, and often unsatisfactory, and this in the best hands. I have, therefore, been induced to lay before the profession some evidence in favour of a remedy whose efficacy appears to me superior to that of any other I have tried myself, or seen tried. I allude to the oxymuriate of mercury given in small doses, so as to act as an alterative or tonic.* By its use I have seen strumous ophthalmia disappear, which had resisted all the ordinary means for months, and even years, and this benefit has resulted in cases severe, but not aggravated, in from two to three weeks, and without, in the majority of instances, change of air, or altered diet, a fact of great interest, as among the poor these are unattainable. A few well-marked cases will best enable the reader to form his own judgment.

Case 1.—Mrs. Smith, wife of one of the messengers of the Castle, and residing in one of the low damp rooms under the treasury chambers, brought her daughter, two years old, to me in September last. The child's appearance was very sickly, and she laboured under strumous ophthalmia of the right eye, in a severe form; the eyelids were red and rather swollen, the eyelashes matted together with dry scabby matter, and the intolerance of light was so great, that she kept the head down and turned from the light, with the eyes obstinately closed, and screamed violently at the least attempt made to examine them; when opened, the eyeball was rolled up, and all that was visible, was a small portion of the florid conjunctiva; the mother said there was a speck on the eye. She had been ill a year, the eye having become bad on the drying up of an eruption behind the ears. During the whole interval the eye had been bad, at times worse than at others, had been subjected to various treatment ineffectually, and was now worse than ever.

I wished the child to be removed from its present unhealthy abode to the country, but that could not be done. I therefore

* To young children the dose has generally been the one-sixteenth or one-twelfth of a grain twice a day: to adults the one-twelfth or one-eighth. The vehicle those in common use, Tinct. Cinchon, or Rhæi, and occasionally spirit of wine. The medicine has been directed to be given one hour after meals. The only unpleasant effects from its use have been sickness of stomach or griping; by stopping the medicine for a day or two in both instances, and the administration of a little castor oil in the second, these effects have speedily ceased.

ordered the one-sixteenth of a grain of the oxymuriate in decoction of bark three times daily. Dilute citrine ointment between the eyelids at night, and a drop of vinum opii in the eye every morning, with occasional purges of jalap and scammony powder.

At the end of three weeks, she having taken the oxymuriate only a fortnight of the time, the improvement was most striking; " the eye was kept half open in a bright light, was not bloodshot, the appearance of the eyelids and eyelashes nearly natural." I ordered a repetition of the oxymuriate, and at the end of ten days she was quite well, a small grey speck in the situation of the ulcer being all that remains, and her general appearance greatly improved. Rather more than two months after this, I saw the child for hooping cough, and it was with difficulty that any remains of the speck could be discovered.

[Several other cases of a similar kind are then related; in one three grains of the oxymuriate were given, and in the other two grains. Mr. Goodall, of Wilmont, corroborates the opinion of Dr. Hamilton; Dr. Hudson of Navan, and Dr. Lees also bear their testimony to its value. The author then proceeds to say:]

I trust I have now brought forward sufficient proofs, if not of the superiority of the oxymuriate above other remedies in strumous ophthalmia, at least of its very great value in the treatment of that disease. It would not be easy precisely to explain its mode of action; but it may be hoped that this will not be more objected to than bark in ague, or sulphur in itch: the physiological school of medicine, which has effected so much good, was faulty in being too ready to reject remedies whose action could not be rationally accounted for. To me, the oxymuriate of mercury seems to act as a tonic and alterative, and it is in the last especially that I regard it as superior to all other tonics, operating such a change in the scrofulous constitution as, I truly believe, not only cures the local disease, but fortifies the patient against a recurrence, relapses being infinitely rarer, after cases so treated, than by any other way I am acquainted with. In the most recent systematic authors on diseases of the eye, I find no mention of its use as an alterative; it is therefore reasonable to conclude it to be unknown. Travers alone, recommends where the symptoms are acute, or the cor-

nea opaque, calomel, blue pill, or the oxymuriate combined with opium, to slight *salivation;* but he conceives the benefit of those mercurials, so given, to depend mainly on the combination with opium, as the irritation of the mercurial given by itself, in sufficient doses for the purpose, is too great. Salivation is, I think, if possible, to be avoided; when it has occurred in my practice, though there has usually been decided amendment, I have not trusted to it, considering such improvement as not likely to be permanent, and have, after discontinuing the remedy for some days, resumed it in much smaller doses. Mackenzie praises its *external* application as a lotion; but his chief reliance is on the sulphate of quinine, which I have sometimes used successfully, but having often found it fail, and from my conviction of the superior efficacy of the oxymuriate, I have latterly rarely given it, except in a few instances to alternate with the latter in very weakly children, and in this way I have found it of great use. Indeed quinine had been previously tried in most of the cases where the oxymuriate was afterwards successful. He objects, generally, to the use of mercurials, and considering the debilitated habit of those labouring under this form of scrofula, the objection of this excellent practical writer to mercury, exhibited in the ordinary forms and manner, is doubtless well founded.

It will be seen from the cases given in this paper, that the treatment was never confined solely to the constitutional remedy, but that various local applications were resorted to. Such a combination I believe to be absolutely necessary, and that much may be done by judiciously changing those applications. In acute attacks, smart purging, cupping, or leeches to the temples, should precede the use of the oxymuriate; blisters on the top of the head or behind the ears, and in the more chronic form, a caustic issue on the vertex, are very beneficial, as also vin. opii. dropped into the eye, or a solution of the nit. argenti, of various strengths; and when there is ophthalmia tarsi, dilute or undilute citrine, or red præcipitate ointment, sometimes even the combination of both succeeds, when either singly fails. Solutions of lead, zinc, &c., are often useful. To the natural objection that these and not the oxymuriate were the real agents of the cure, the answer is conclusive, that in all the cases I have adduced, most of these means had been tried, and had failed, till the oxymuriate was given with them. When

there is much organic change in the cornea, where it is very turbid and vascular, the greatest perseverance is necessary.

It is entirely to Sir Philip Crampton that I am indebted for my knowledge of the utility of this medicine, and it was while serving my time as his pupil, that I had an opportunity of witnessing its effects; and subsequently in the South Eastern Dispensary, I had abundant opportunity of confirming the favourable impression I then received. He informs me that he learned it from Dr. M'Evoy, a surgeon, who practised many years ago in this city. That it should not be in more general use in this disease is certainly surprising. Sir A. Cooper, in his admirable lectures, praises it highly as a remedy in scrofula; but though specifying the various other local effects of that disease, says not a word of the strumous opthalmia. The fact so well known of its forming the chief ingredient in the many anti-scorbutic nostrums of the quacks, would seem naturally to have led to its use where the eyes were affected by scrofula, yet such does not appear to have been the result. There are two authors, however, who are its strong advocates. One of these is Ware, and it is strange that his authority should not have led to its general adoption. The other is Van Swieten.

In the second volume of the Medical Observations and Inquiries, is a very interesting letter in Latin, from Baron Van Swieten to Dr. Sylvester, on the use of the oxymuriate in the cure of an opacity of the eye. He relates the first case that led him to discover its value was that of a man labouring under syphilitic disease, whose cornea was opaque, and had been so for many years. While giving the oxymuriate, he observed the opacity to disappear. Incited by this success, he tried it in the case of a young nobleman, who was blind in consequence of both corneæ remaining opaque after a badly cured opthalmia, and with the best result; as after eighteen months' perseverance in the use of the remedy, with alternate purgation and bloodletting, whenever there was an accession of opthalmia, the cornea became clear. He adds, "Thus it is clear that the human body can bear the use of this remedy without injury for a long time."

If the authority of these eminent men, that of Sir Philip Crampton, the cases here given, and the testimony advanced in its favour, should induce the reader to make a trial of the oxy-

muriate in the strumous opthalmia, my object in writing this paper will be accomplished.

Dublin Journal of Medical Science, July 1840, *p.* 425—439.

110.—TREATMENT OF ULCERS ON THE CORNEA.

By John Walker, Esq., Manchester.

[In the course of these very valuable lectures on the eye, of which we have already had occasion to avail ourselves in our first number, Mr. Walker says, speaking of affections of the cornea]

Ulceration of the cornea being presumptive evidence of a state of constitutional debility, you will see the impropriety of resorting to the lowering treatment so generally recommended. The local stimulant treatment, before pointed out, is the one which can be alone employed, in most cases, with a probability of success, for depletion must certainly add to debility, and this again to extension of the morbid action. Where the ulcer is of some size and penetrating, it will be proper to apply the pencil of nitrate of silver to its edges. But, usually, it is much better to apply it to the conjunctival surface of the lower lid, as by so doing you are more likely to destroy the morbid action which gives rise to the ulceration; and, at the same time a portion of the dissolved nitrate is carried over and in contact with the ulcer, and produces most of the beneficial effects of its direct application to the abraded surface.

This treatment, efficiently employed by the surgeon himself, produces more real benefit than all the applications he might give to the patient with orders to inject upon, or otherwise apply to, the surface of the eye. Some surgeons entertain a most unfounded aversion to the employment of nitrate of silver, even when ulceration exists. Dr. Jacob imagines that its use is sometimes productive of a dark opaque speck upon the cornea, which is indelible. I can only say that I have never seen such a result. Possibly Dr. J. may have mistaken the dark spot, which is left by a portion of the iris becoming adherent to the ulcerated surface of the cornea, for the indelible stain of which he speaks.

The other local means which I have advised for the treatment of chronic or indolent opthalmia are also to be used. If the ulcer be situated near the centre of the cornea, and seem likely to penetrate the anterior chamber, it will be proper, in addition, to apply the extract of belladonna to the eyebrows and lids, with a view of keeping the pupil dilated, and the free margin of the iris from falling into the perforation. If, on the contrary, the ulcer be situated at the margin of the cornea, then it will evidently be better to omit the application of the belladonna.

When a portion of the iris has passed through the aperture of the cornea, and forms a prolapsus of some size, it will be proper to touch the protruded part occasionally with the caustic pencil; or if it be very large, it may in some instances be necessary to snip it off with scissors, so as completely to remove what must otherwise be a source of irritation.

For the internal treatment you will do well to employ tonics, such as the sulphate of quina, and the more so if the patient be of a strumous diathesis. Attention to the state of the alimentary canal should likewise be paid.

[Mr. Walker has also made some most useful and practical remarks respecting opacity of the cornea, which we cannot help extracting: he says]

The process by which an opaque deposit of any kind is removed from the texture of the cornea is that of absorption; and the only mode in which the surgeon can be of use, is in the employment of such remedies as have a tendency to increase the action of the vessels engaged in that process. After an attack of inflammation, I have before explained that the vessels become exceedingly relaxed and enfeebled; and it is astonishing, in some cases, how little effect is produced by the most powerful stimulating substances being brought into contact with them. In this condition we find that if there have been ulceration, the reparative process is slowly performed; and, if there have been deposition, the absorbents are tardy in removing the superfluous matter. It becomes necessary, then, in all such cases, to apply an artificial stimulus which shall excite the dormant energies of the vessels.

The substances employed for the purpose of promoting the action of the absorbents are of the class termed stimulants;

and the one most frequently used is the solution of nitrate of silver. Its strength, in the first instance, should not exceed two grains of the salt to an ounce of distilled water. After a time, the proportion of the nitrate may be increased gradually up to ten grains to the ounce of water. This is decidedly the most popular of this class of remedies, and by some it appears to be regarded almost as a specific. In prescribing it, however, you must not forget the caution I formerly gave as to the long-continued use of the solution of nitrate of silver, viz., that it is very apt to leave a permanent stain of a deep olive colour in the conjunctiva, which, in the case of young persons, and more particularly females, would constitute a serious blemish.

The vinum opii was formerly a favourite remedy in the treatment of opacity, and, indeed, in chronic opthalmia generally, but of late it seems to have been almost superseded by the nitrate of silver solution. It would, probably, answer fully as well in the majority of cases.

A solution of the oxymuriate of mercury is, perhaps, as good an application as any other. One grain of the salt to an ounce of distilled water is sufficiently strong to commence with; after a time two or three grains to the ounce will be borne, but its strength ought to be increased very gradually, as it is considerably more irritating than the nitrate of silver solution in like proportions. On the whole, it is decidedly preferable to the latter remedy, inasmuch as it never leaves any stain on the conjunctiva, however long its use may be continued.

Various stimulants are also employed in conjunction with some unctuous substance, for the removal of opacities. Of these, probably, the red precipitate ointment, the citrine or golden ointment, the nitrate of silver ointment, and the ointment of hydriodate of potass, are the best; and they also should be brought into contact with the conjunctival surface of the inferior lid, in the manner before pointed out.

A very old-fashioned remedy, and by no means the least effective, is that of blowing through a reed or quill, upon the surface of the eye, some finely powdered substance, such as the oxide of zinc, white sugar, red precipitate and sugar, powdered glass and sugar candy, and calomel and sugar. The operation of these substances is precisely similar to that of the drops and

ointment,—they produce a certain amount of irritation in the organ, which is presumed to increase the activity of the absorbent vessels.

Lancet, July 4, 1480, p. 519—522.

III.—TREATMENT OF DISEASES OF THE TESTICLE BY COMPRESSION.

By Langston Parker, Esq., Birmingham.

A short time since, Fricke, of Hamburg, proposed the treatment of hernia humoralis, by compression; and, subsequently, Ricord has modified Fricke's method, which is now generally followed with success in the Parisian Civil Venereal Hospital.

In common swelled testicle compression may be employed as soon as the patient is able to bear the application of the plasters; and this is generally much sooner than might be supposed, however acute the disease may be. The great advantages possessed by compression are, almost immediate relief to pain; which is occasioned, in great measure, by the dragging and weight of the inflamed organ, and is mitigated, and most commonly completely removed by its support: the patient can pursue, in most instances, his ordinary duties, and there is no occasion to confine him to bed; a circumstance of great importance, where concealment is wished, as it always is, in diseases of this kind.

Chronic inflammation and enlargement of the testis also very commonly occurs as one of the symptoms of constitutional syphilis, as well as from other causes. Here, also, compression, as a local remedy, is by far the most valuable of any with which I am acquainted, particularly in those cases where enlargement of the organ, from chronic inflammation, has taken place to a considerable extent, where the weight chiefly incommodes the patient, and little or no tenderness is experienced when the part is handled.

Compression of the testis is to be practised by surrounding the organ by straps of plaster, applied as closely and as tight as the patient can bear. The plasters I generally use are those

of ammoniacum, with mercury, or iodine and belladonna. These are to be smoothly spread upon thick wash leather, and cut into thin straps; an assistant then grasps the testicle, and draws it as far downwards as he can in the scrotum, which should previously be washed with a little spirits of wine. The first strap should be placed at the upper part, circularly round the testis, and succeeded by others, placed in the same direction, till the whole is covered. A second series of straps is then to be placed in an opposite direction to the former, crossing them at right angles, from behind forwards. One or two long ones may then be placed over these, where they appear to be most needed, to keep the whole in place. The parts should be supported by a well-fitting suspensory bandage, although the plasters at once relieve any inconvenience or pain that may have been occasioned by the dragging or weight of the testicle.

Lancet, July 25, 1840, p. 640.

112.—RESTORATION AFTER DROWNING,

BY VOLTAIC ELECTRICITY ACTING ON THE DIAPHRAGM.

[Dr. Ferguson, Surgeon to the Westmeath Dispensary, communicates the following account to the *Dublin Medical Press.*]

On Thursday evening, the 18th inst., I was requested to go in all haste to see a man of the name of James Rock, who had just been taken out of the canal, and was supposed to be dead. I was with him in four or five minutes, and found him apparently lifeless, cold, and livid. I had him forthwith removed to the county infirmary, about eight or nine hundred yards distant. I learned, in the meantime, from several persons who witnessed the scene, that he was at least six or seven minutes completely under the water, and that he had been in a state of intoxication. Finding the abdomen very much distended, I immediately introduced the stomach pump, and discharged by it upwards of a gallon of water, strongly impregnated with spirits. Seeing that this, with all the ordinary means of restoring suspended animation, had failed to produce the desired effect, and that no time was to be lost, I determined on trying a plan which I have for a

long time considered a likely means of bringing about the action of the heart and lungs in those cases, by immediately acting on the diaphragm, the main agent of respiration, and accordingly was prepared with the necessary apparatus. I made an incision below the seventh rib—cut down on that important muscle—laid it bare, and applied the conductors of a galvanic battery, consisting of fifty pair of plates, to it. The effect was instantaneous, and suprised all the persons present. The muscles of the chest and abdomen became spasmodically engaged; and, after a few moments, I could see this spasmodic action gradually disappear, and the regular action of the chest come on, which soon increased till breathing became quite apparent, as also the circulation; and blood, now for the first time, issued from the wound I had made in the chest.

He has continued to go on well, with the exception of some inflammatory symptoms, perhaps produced by the wound, but not unlikely from the effects of the cold and wet he was exposed to; however, by the use of the lancet, and following up the antiphlogistic treatment, those symptoms are fast abating; and, I have no doubt, I shall be able to discharge him, cured, from the infirmary, very shortly.

This case must fully establish the utility of voltaic electricity in restoring suspended animation from immersion in water, by acting indirectly on the phrenic nerve and eighth pair, and thus exciting the action of the heart. It will also go to prove, in my opinion, that it is not necessary to transmit along the *channel of the nerves*, this most wonderful agent, as a substitute for nervous influence.

As immersion in cold water must hasten the extinction of life, arising from suffocation, by depriving the body of vital heat, the effect of this extraordinary power is the more remarkable, and shews the necessity of artificial heat being applied to the body as effectively and expeditiously as possible.

The stomach pump I consider was of much use, as by relieving the great distention of the stomach, the lungs were better able to fulfil their function, upon the galvanic influence being applied.

In cutting down and exposing the diaphragm, much caution is necessary, so as not to wound it, however slightly, the consequences of which might be very bad.

Dublin Medical Press, July 1, 1840, *p.* 8.

The Gazette des Hôpitaux Civils et Militaires de Paris in noticing Dr. Ferguson's application of the galvanic pile for the resuscitation of persons apparently drowned, makes the following observations, which, seeing the great practical importance of the subject, we lay before our readers:—

"M. Ferguson's caution to avoid wounding the diaphragm in the operation, which he recommends, is the more important as there are many recorded cases where wounds of the diaphragm, apparently little important, have led to fatal results, after a lapse of time varying from two months to two years, after the infliction of the wound.—(Vide Morgagni, op. 53. No. 5-6, Liv. x. xii.)—The wound remaining open, and allowing entrance to some abdominal viscus, which, gradually dilating it, at length made its way into the thoracic cavity, and produced a series of asthmatic symptoms sooner or later terminating in death. Unfortunately, however, it is more difficult than we might suppose, to avoid wounding the diaphragm in M. Ferguson's operation; and it is worth considering whether this operation is necessary or not. It seems very probable that one, two, or more long, acupuncture needles, passed through the diaphragm, would yield all the advantages without any of the dangers of the operation in question. The needles should be passed from above downwards, or from the thorax towards the abdomen, the wound inflicted is perfectly harmless, acupuncture needles simply separating the parts without dividing them.

M. Ferguson seems to have applied both conductors to the diaphragm; but we may have misunderstood him, (unless, indeed, he speaks of several conducting wires in communication with one and the same pole of the galvanic pile.) It would, we think, be better to apply one pole to the needles implanted in the diaphragm, the other being placed on the nucha.

We may add that if a powerful electro-magnetic apparatus were employed, contractions of the diaphragm might be excited by simply applying the poles to the skin; and such an apparatus, we think, should exist in every establishment for the resuscitation of persons labouring under asphyxia, its power being greater, and, above all, more constant and sustained than that of the ordinary galvanic pile."

Dublin Medical Press, September 23, 1840, *p.* 196.

113.—ON STRABISMUS, OR SQUINTING.

[So many opinions respecting the treatment of this affection have been published since our notice of this subject in our last number, that we find it difficult to arrange them. We have endeavoured to collect and abridge those which in our opinion are most deserving of notice, and we leave to the experienced reader the task of deciding which is the best. Mr. B. Lucas was, we believe, the first to introduce this operation into this country, and as the following is perhaps one of the best and simplest ways of operating, we will begin by describing it.

Mr. Lucas uses three instruments, a sharp hook for the conjunctiva, a blunt hook for the tendon of the muscle, and a pair of scissors.]

The sharp hook is for the purpose of seizing the tunica conjunctiva, and raising this membrane from the subjacent parts, in order to make the necessary incision of it. With the pair of sharp pointed scissors I make the incision of the conjunctiva, and also divide the tendon of the muscle, and the other parts which may require to be divided, on account of retaining the eye in the improper direction. The blunt hook is for the purpose of passing beneath the tendon of the muscle; and is admirably adapted to protect the globe of the eye, to fix it and the muscle at the time of making the section of the latter, and to secure the complete and perfect performance of the operation.

The principal assistant stands behind the patient, and should be sufficiently raised above him to have full command over his head and eye-lids. The head of the patient should be allowed to rest against the lower part of the assistant's chest; and at the same time that he is securing the eye-lids, he is thus also enabled to steady the patient's head. By using the fingers in securing the eyelids a double object is attained. In the first place the natural softness and temperature of the fingers when applied to the delicate tegumentary covering of the eye-lids, never produce that degree of irritability in their orbicularis muscle, which contrivances of human invention in general do; and, in the second place, when these natural retractors are judiciously applied, they are always sufficient to keep the lids apart, to regulate the degree of separation required, and to allow them

to close when it is desirable that they should do so, better than a speculum, a forceps, or any other such clumsy inventions for this purpose.

The fore-finger of the left hand should be employed in elevating the upper lid, the integuments of which should be gently raised towards the supra-orbital ridge, and there steadily compressed against it. This should be performed three or four times before commencing the operation, as it accustoms the patient to it, and lessens the chance of his offering unintentional opposition by the contraction of the orbicularis muscle. The operator also, before commencing the section of the conjunctiva, will find it advantageous to touch this membrane, where it covers the inner rectus muscle, three or four times with the handle of his hook, or point of his finger, with the same object.

The patient being thus prepared, and the eye-lids held apart, the operator commences to make the required section of the conjunctiva.

Experience has shown me that this can be better and more quickly performed by means of the sharp-pointed hook, and the pair of scissors, than by any other instruments.

By having the hook fixed in a cedar handle, a great degree of lightness is given to the instrument, so that if the patient should start suddenly, or in any other way struggle, so as to interfere with the operation, the operator may let go the instrument, while it is yet fixed in the conjunctiva, without doing injury to this membrane, endangering the eye itself, or losing its hold. In three or four operations in which the patient struggled, I found the advantage of this precaution.

The operator takes the hook in his right hand, and inserts it into the tunica conjunctiva, about two lines or two lines and a half distant from the cornea, and on a line corresponding to its transverse axis. He then transfers the hook to his left hand; and taking in his right the sharp-pointed scissors, he first gently draws forward the conjunctiva, and makes a semicircular incision of this membrane from below upwards, upon the outer side of the hook, to an extent varying from four to six lines. It may sometimes even be desirable to make the incision longer. If the patient feels faint at this time, or if he gets pale, the hæmorrhage from the incision of the conjunctiva will hardly amount to more than a drop of blood. In the majority of cases, the hæmorrhage will amount to some eight or ten

drops, which will interfere, more or less, with the future steps of the operation. When this occurs, the operation had better be suspended for a moment or two, and the blood be removed, by means of a fine sponge and tepid water, when the bleeding will soon cease.

When the required section of the conjunctiva is made, the fine sharp-pointed hook should be withdrawn, the eye-lids be permitted to meet, and the further progress of the operation be suspended for a few moments; during which time, if there be any hæmorrhage, the sponge and tepid water are to be used; indeed, whether there be hæmorrhage or not, the application of tepid water is always agreeable to the patient. The eyelids are next to be carefully wiped dry with a handkerchief, and the assistant is to secure them as before, when the lips of the incision of the conjunctiva will be found to be more or less separated from each other. The operator then takes the blunt hook in his right hand, and inserting it between the edges of the divided conjunctiva, he insinuates it from below upwards, between the tendon of the muscle and the sclerotica. This being effected, either totally or partially, the eyeball and the muscle are at the complete command of the operator.

It sometimes happens that upon exposing the incision of the conjunctiva, its edges will be found raised, in consequence of the blood insinuating itself into the cellular tissue; if this should offer any difficulty to the introduction of the blunt hook, the lids had better be again closed, and slight pressure be made upon them with the finger, over the incision, which will have the effect of displacing the effused fluid. It is very seldom, however, that this effusion takes place, unless the conjunctiva be needlessly pulled or torn.

The cellular tissue immediately behind the conjunctiva and the sub-conjunctival and sub-muscular fasciæ, often afford resistance to the passage of the blunt hook. The former can be easily separated with the point of the instrument, and the fasciæ also, but with more difficulty.

The blunt hook being inserted beneath the muscle, the operator transfers it to his left hand, and having brought the tendons into view, he divides it with a sharp-pointed pair of scissors, held in his right hand, as close to its insertion as is compatible with the safety of the sclerotica.

The further proceedings of the operation are simple. If the eye be not immediately everted, or if the patient has the power of turning it so far inward as to conceal any portion of the cornea, or to hide completely the *white of the eye* between the cornea and the inner canthus, in all probability some of the tendinous fibres of the muscle have not been divided. To ascertain if this be the case, I have found the blunt hook the best instrument; it should again be inserted between the edges of the incision of the conjunctiva, and by directing its point upwards or downwards, keeping it at the same time close to the sclerotica, the most minute tendinous filament, if undivided, can be detected, and its section accomplished.

Notwithstanding that the muscle be divided in the most satisfactory manner, and even a portion of it cut away, the eye, in many cases, will be found still inverted. I have ascertained beyond all doubt that this inversion is owing to the condition of the sub-muscular and sub-conjunctival fasciæ. When the inner rectus muscle is fairly divided, the mark of its semicircular insertion, with minute fuzzy tendinous fibres adhering to it, are as plainly discernible to the naked eye as the scissors with which the operation is performed; the inversion of the eye, therefore, cannot in such cases be owing to the inner rectus muscle: but if the sub-muscular and sub-conjunctival fasciæ be examined, they will be found strong and dense; and upon freely dividing them, both upwards and downwards, with a forceps and a pair of scissors, the eye in most cases, will become perfectly straight. I say in most cases, because it sometimes happens that these fasciæ are intimately adherent to the sclerotic coat for its inner extent, and the operator will be obliged to dissect them from it, leaving the sclerotic coat completely bare. When this unnatural adhesion of the fasciæ was present, I have invariably remarked that the conjunctiva, upon making its section, was not connected to the parts beneath it in the very loose and delicate manner it is in the healthy condition of the eye, but that it was thicker than natural, and could not be raised freely with the sharp hook.

If the insertion of hooks into the sclerotic coat of the eye can be avoided, the better; it is impossible to regulate the depth to which such instruments may penetrate, if their curve be too great, and if the turn of their sharp points be only sufficient to penetrate the conjunctiva, and the parts beneath it, without

entering the sclerotic coat, the instruments will be apt to slip during the most critical steps of the operation; or, to compel it to keep its hold, it must be pressed with force against the ball of the eye, bulging, as it were the globular sclerotic.

Besides, if the coats of the eye were of the same density and strength at all ages and in all individuals, a hook might be contrived to penetrate a certain distance, and no further; but as these textures are subject to much variety, the formation of such an instrument would require some ingenuity.

Provincial Medical and Surgical Journal, Oct. 3, 1840, *p.* 5.

[Dr. Franz has found it necessary in some cases to divide the tendon of the superior oblique, as well as that of the internal rectus, as he states in the case of Eliza White, in the *Medical Gazette* for July 24, 1840, p. 689.

Mr. Liston also is reported to have frequently divided the inferior rectus, either completely or partially when he found the eye still retaining an obliquity inwards after the division of the internal rectus.

But this practice is very ably commented on by Mr. Duffin, whose experience in these cases has been very extensive. The celebrated Dieffenbach himself states, that "sometimes the trochlearis muscle was also shortened, so that it was necessary to divide it as well as the rectus." Mr. Duffin, in commenting on this practice, says:]

I do not by any means call in question that in some few instances it may be necessary to divide the inferior rectus partially or completely, because I am satisfied that this muscle may occasionally be implicated in the production of the deformity, as well as the adductor. But when, after dividing, as I have thought completely, the rectus muscle, and the patient has still retained the power of directing the eye downwards, and *a little inwards*, I have always found, on instituting a very careful examination, that a few tendinous fibres, or a band of adventitious cellular attachment, generally situated above the tendon of the muscle, still remained unseparated; and on dividing these the patient could no longer direct the pupil to the nasal canthus, nor carry it beyond the centre of the orbit. It is truly astonishing how very small a portion of this fibrous adhesion remaining unseparated is sufficient to mar the finish

of the operation. These fibrous bands or digitations are sometimes seated very far back, even beyond the greatest diameter of the eyeball.

In the dead eye the cellular tissue is so delicate, lax, and unresisting, as to be scarcely appreciable. Indeed, it is with difficulty we can imagine it capable in any way of contributing to the deformity. When endowed with life, however, the bands formed by it are very powerful agents in retaining the eye in its unnatural position, and offer considerable resistance to the scissors, on being cut. It would seem that these bands proceed from condensation of the cellular tissue connecting the muscle with the sclerotic coat, and which gradually adapts itself to the shortened state of that muscle. In some instances we find them strengthened by the effects of inflammation occurring during childhood; and in numerous examples it is the supervention of this apparently unnatural adhesion that renders the strabismus permanent.

In the first instance there can be little doubt that the affection depends on muscular spasm, by no means necessarily persistent. I think moreover, I have observed this adherent fibrous character of the sub-muscular cellular membrane to be more extensive and marked in persons who squint most. The movement of the eye downwards and inwards then, when the patient makes an effort to direct it to the inner canthus after the complete division of the tendon of the adductor, arises, I apprehend from the natural action of the inferior rectus muscle, whilst the eyeball is still partially bound down by the tendinous bands of attachment alluded to, and that all we have to do, ninety-nine times out of a hundred, in order to succeed in perfectly rectifying this diagonal and abnormal movement of the globe, is to carry the dissection sufficiently far to separate completely these adherent fibres, however far back, high up, or low down on the sclerotica, they may be seated. I have met with this feature in the course of the operation in very numerous instances, and have always overcome it by the means just stated.

In no case have I ever cut the fibres of the inferior rectus muscle; and in none have I ever dreamt of cutting the superior oblique muscle, as Dr. Franz informs us he has done, in order to remedy a position of the eye *upwards* and inwards, the reverse of that we have been considering. Dr. Franz, however, it appears to me, has deceived himself in this respect. Indeed,

I do not believe that any one has yet divided either of the oblique muscles, or that such an extension of the operation will ever be necessary.

Medical Gazette, Sep. 11, 1840, *p.* 942.

[Mr. Charles Guthrie agrees with Mr. B. Lucas and Mr. Duffin, that it is only necessary to divide the tendon of the internal rectus muscle, or its cellular attachments, and that when the least portion of either the muscle or the condensed tissue attached to it are left undivided, it will frequently account for the failure of the operation. After describing his method of operating, which is nearly the same as that of Lucas, Duffin, &c. he says]

The patient should now be desired to open the eye by raising the lid, and to turn the eye inwards; if he cannot do this the operation has been completed, but if he can do it in the slightest degree, the muscle or its lateral cellular or tendinous attachments have not been entirely divided, and the eye being again secured by the fore-finger or the elevator, the scissors are to be used, or the director is to be once more introduced, and the undivided part sought for and incised, when it will be found that the patient can no longer turn the eye inwards, and it is surprising how small a portion of attachment can do this, either on the under or upper part. In the earlier operations performed I was not aware of this circumstance, and in two cases where a slight turn *inwards* re-appeared a fortnight after the operation, I attribute it to this portion of membrane, which in all probability adhered to the posterior end of the divided muscle. It may also effect this slight turn from its connexion either with the rectus superior above, or the inferior below, as the case may be. In three of the last cures performed the eyes would not turn outwards, although the sclerotic coat was rendered distinct to all present, for nearly three-eighths of an inch every way, which indeed ought always to be done to ensure success, and it was only by dividing the additional band of membrane or tendinous expansion I have alluded to in one case above and in two below, that the operation was perfectly completed.

Medico Chirurgical Review, Oct. 1840, *p.* 539.

[We must here call attention to an ingenious speculum used by Mr. Charles Clay, of Manchester, by means of which he is enabled to operate without the use of hooks.]

This speculum of Mr. Clay, in general form and size, represents a teaspoon, having about one-third of the extremity of the bowl removed by a semilunar cut; on the external surface it is less convex than a spoon; on the internal surface, that which is intended to be applied to the eye, it is concave, and hollowed so as to fit the cornea and front of the globe, while the edges are thick to keep apart the eyelids. When placed in its position between the lids, the inner angle of the eye is left uncovered, in consequence of the semilunar notch, and the surgeon is supposed to operate in the resulting space.

Lancet, Sep, 12, 1840, *p.* 908.

[Perhaps one of the least objectionable kind of hooks for steadying the eye during the operation for strabismus, is that recommended by Mr. James Adams. Instead of the usual hook which is thrust into the sclerotica at right angles, and which consequently often produces a good deal of pressure and pain, he has had made by Mr. Weiss, and proved by repeated trials, a hook of a very acute angle.]

It consists of a slender stem, an inch and a half long, fixed in a handle of the length of four inches. The stem is bent near the point at an acute angle, so that the returning part, which forms the hook, is one line in length, and its extremity at the distance of half a line from the stem.

The use of this instrument I would, then, suggest to the profession; and it will be seen that the hooked part of the stem is bent upon itself at such an angle as to require its introduction into the sclerotica, not by a sudden thrust at a right angle with its stem, but by a gentle motion in a line with the direction of the handle of the instrument, and so as to enter the sclerotic obliquely, thus rendering all direct pressure on the globe unnecessary, as the motion is to draw the eye outwards, and not to press it backwards.

The acuteness of the angle of the improved sharp hook, and the shortness of its reflected extremity, are a sufficient protection against its being thrust through the sclerotica.

Medical Gazette, Aug. 21, 1840, *p.* 840.

[In *Casper's Wochenschrift*, for July 4, 1840, are some recent observations of Dieffenbach, and although in his earlier cases we find that he refers to the steadying of the eye by means

of hooking the sclerotica, yet in his more recent practice he seems to rely chiefly on hooking the conjunctiva alone, and does not even mention the sclerotica. In describing the operation he says,]

The operator always stands on the right side of the patient whether he be operating on the right or on the left eye. The patient sits on a stool, and an assistant standing behind him draws up the upper eyelid with a Pellier's hook. A second assistant draws down the lower eyelid with a double hook which is set in a handle and of which the teeth are connected by a transverse piece. He kneels down before the patient so as not to be in the way.

The operator then puts a fine hook into the conjunctiva at the inner angle of the eye just where it is passing from the palpebræ to the bulb, passes it superficially through it, and gives it to a third assistant who stands on the left side of the patient. The operator next passes a second hook in the same way through the conjunctiva about a line and a half from the first. He and his assistant then both at the same time draw their hooks a little up, so as to raise a fold of the conjunctiva, and at the same time pull the bulb somewhat outwards. The fold is then divided with a pair of curved eye-scissors; and this cut usually at once exposes the tendon and the anterior part of the muscle. A couple of cuts with the scissors then expose the outer surface of the muscle; a rather blunt hook is passed under its tendon, and the two sharp hooks that held the conjunctiva are now removed; the eye is held completely in the power of the blunt hook, and is to be drawn by it from out the internal angle of the orbit. A flat probe is then pushed under the muscle; and the loose connexion by cellular tissue between it and the eye is broken up. The division of the muscle is made by the scissors already mentioned, either, first, through the tendon in front of the hook; or, second, behind the hook at the beginning of the muscular substance; or, third, some lines deeper back.

The fixing of the globe can be accomplished only by fine hooks carried superficially through the conjunctiva; the seizing and elevation of the fold of conjunctiva by forceps sounds more gentle than to do it with a sharp hook, but it is in reality far more painful, more injurious, and more insecure; the fold

raised up by the forceps easily tears or slips from their grasp, and if the forceps are made with hooks they wound as well as pinch the membrane. Two hooks must be employed to make the fold tense enough.

[Dieffenbach thinks that the further back the muscle is divided and separated from the sclerotica, the more effectually will severe cases of strabismus be relieved; and that slight cases only require the division of the anterior fibres. On this subject he says]

If there be the slightest degree of convergent strabismus, only a very small opening should be made in the conjunctiva, and the tendon only divided close to the eye without separating the muscle from the globe. In this case the eye at first almost maintains its previous position, but after some weeks it becomes straight. If the conjunctiva be more extensively divided, and if the under surface of the muscle be separated from the globe with a probe and then cut across, the squinting is at once nearly or completely removed. If the conjunctiva be divided over a greater arc and towards the back of the globe, if the cellular tissue be extensively separated and the muscle be detached far back and divided at its middle, then the eye, even in cases in which the whole cornea was before hidden in the internal angle, stands quite straight after the operation.

British and Foreign Medical Review, Oct. 1840, *p.* 570—572.

[The following simple method of operating is adopted by Mr. French, of the St. James' Infirmary, and communicated by Mr. Edwards, of Chelsea, who operated in the same way with success. In all the cases operated upon, says Mr. Edwards,]

The patient was seated on a chair in a moderate light; an assistant standing behind covered the sound eye with one hand, and with the other raised up the superior lid of the affected organ. The patient having been directed to turn the eye upwards and outwards, I snipped the conjunctiva at the under edge of the rectus, and passed a curved probe beneath the muscle: by depressing the handle of the probe the point was thrust forward, and appeared above the upper edge of the divided muscle, and by a cut of the scissors was enabled to emerge. The fibres were finally divided upon the probe.

The operation, thus abbreviated, consists of but three steps:—

First, the snipping of the conjunctiva.

Second, the introduction of the probe under the muscle.

Third, the cutting out of the probe.

The usual formidable notes of preparation are avoided. The probe which I employ consists of two stems placed parallel, at a distance sufficient for the point of the scissors to pass between. It is curved into a hook in the shape of a semicircle, of which the diameter is six lines. The pattern may be had at Savigny's or Ferguson's.

The probe, when introduced underneath the muscle, should be held loosely, for occasionally the eye is drawn spasmodically outwards, and the probe, if held tightly, would plunge in consequence deep into the orbit, and occasion pain by coming in contact with various nervous filaments; but when held loosely it follows the course of the eyeball, and produces no pain whatsoever.

Medical Gazette, Sep. 4, 1840, *p.* 927.

[M. Guérin performs the operation in accordance with the principles on which the method of sub-cutaneous operations rests.]

The patient is placed on his back, and the head fixed. The eyelids being held apart by an assistant, and the eyeball everted by means of a hook, a small convex bistoury is passed through the conjunctiva (at the inner or outer angle, according to the muscle to be divided,) and then directed between the globe of the eye and the rectus muscle. This done, the convex cutting edge of the blade is, by a semi-rotation, brought into contact with the inner surface of the muscle, and the latter is divided from within, outwards; that is to say, from the direction of the eyeball towards that of the osseous orbit. By drawing the eyeball a little forwards and sideways, we render the muscle tense, and facilitate the operation. The division of the muscle is marked by a slight cracking noise, with a sensation of absence of resistance and a slight movement of the eyeball, which yields to the hook employed to evert it. The bistoury is drawn out through the original opening, and there is of course, no external wound, save this one, which is almost imperceptible. M. Guérin has twice repeated this operation, with complete success, on the internal rectus muscle. This muscle was divided in less

than a minute; the conjunctiva was merely punctured, and a cure was speedily obtained, without the slightest trace of inflammation.

Provincial Medical and Surg. Journal, Nov. 14, 1840, *p.* 122.

[The following is an account of the instrument used by Mr. Charles Brooke, and it certainly seems to be the simplest, and perhaps one of the most efficacious yet used.]

The instrument resembles a small curved director attached to a handle, with a sharp-pointed, curved bistoury blade sliding in the groove. The blade and groove are accurately portions of a circular arc, comprising rather more than one-sixth of a circle, the diameter of which is one inch and a quarter, The groove gradually deepens from the point to the handle, so as to conceal the taper-pointed blade, when withdrawn a little; and is continued through the solid part of the handle, to give steadiness to the motion of the blade. I have used this instrument with complete success in more than a dozen cases, without the aid of any accessory instruments for fixing the eye or eye-lids: my mode of operating being simply to make a small opening in the conjunctiva with a pair of probe-pointed scissors, through which the director is introduced and passed under the tendon to be divided; the blade being passed forward with the point of the fore-finger, completes the operation.

This instrument is made by Mr. Ferguson.

Lancet, Nov. 14, 1840, *p.* 280.

[We cannot do better than end this article on strabismus, by giving the theory of the operation in the words of Mr. Hocken.]

When we divide the hypertrophied muscle its weaker antagonist is, for the time, the only acting power: hence it has been surmised that the eye ought to assume an opposite displacement to the habitual squint; but experience disproves this, at least for any length of time, for its contraction serves only to restore the organ to its normal direction, in harmony with its fellow. During the healing of the divided tendon the muscle originally weak gains strength and volume by its increased exertions, whilst the hypertrophied muscle loses both, never again to recover them in the prior degree, and, at the same time, the muscle previously contracted becomes elongated, since it is united whilst the eye is retained in its healthy direction by its

antagonist. Hence the principle is the same as in the cure of the varieties of talipes, &c.: here the division of contracted tendons allows of the placing of the abnormally situated parts in a right direction and healthy situation, aided, and the situation maintained, by suitable mechanical measures, so that re-union of the divided parts takes place whilst they are thus situated, and permanent elongation is insured, at the same time that muscles, previously atrophied from disuse, are again, from the change of position, called into active service, and in this way the parts are restored to their due balance of strength and appearance, provided that the osseous system admit of such subsequent changes. In two cases operated upon by Mr. B. Lucas, he had an opportunity of ascertaining what became of the muscle after its division. "After having made," he says, "the incision of the conjunctiva in the usual manner, I clearly saw the mark of the original attachment of the muscle in both cases, and a short distance behind this point (from a line and a half to two lines) I found the muscle adherent to the sclerotica."

Medical Gazette, Sep. 11, 1840, *p.* 946.

114.—TREATMENT OF CATARACT IN INFANTS AND YOUNG PERSONS.

By R. Middlemore, Esq., Surgeon to the Birmingham Eye Infirmary.

[As Mr. Middlemore differs in his views on this subject from all other writers with whom we are acquainted, we lay them before our readers with pleasure; especially as his well known character makes any of his opinions on this particular subject attended to with respect by the profession. He states that his views on this subject are original, or at any rate, not noticed and acted upon in the same way. The only individual who even alludes to the subject in the same way as himself is Mr. Barton, of Manchester, in an interesting communication to the *Medical Gazette*, vol. 5, p. 784. Mr. Barton's cases, however, do not seem to apply to very young children, as the one is the case of "a country gentleman," and the other that of a "mechanic," and moreover, the only operation recommended by

him is that of extraction, which as Mr. Middlemore justly affirms, is of extreme difficulty in children two or three years old: and moreover, the originality of Mr. Middlemore's views seems to consist in the fact, that the operation he describes is only called for in *early* life, in order to prevent a still more troublesome disease, viz. *capsular* cataract, which is almost sure to follow the first form of disease. Mr. M. proceeds to say:]

If ordinary congenital cataract be allowed to continue until the subject of this defect has arrived at or towards adult age, certain important changes take place; for instance, the lens is absorbed, the anterior and posterior hemispheres of the capsule become thick and opaque, and either fall into apposition, or become united by an organized medium.

Concussion of the eye or head, wound of the lens and its capsule, and a variety of other accidents, may occasion cataract, and, if such an event take place in early life from any of these circumstances, and no attempt be made to relieve it, thick, tough, capsular cataract is likely to remain, and is especially prone to contract adhesions to the iris, and to diminish the pupillary aperture.

It will be perceived from this statement, that if, in early life, the lens and its capsule become opaque from any cause, and no prompt surgical efforts be employed to procure the disappearance of the opaque matter, a secondary, and far more troublesome, and less manageable form of disease will almost certainly occur. Hence, it may be laid down as a rule of practice, admitting of scarcely any exception, that operative proceedings should be employed soon after the distinct establishment of the cataractous malady, *whenever* it occurs *in early life*. I say *in early life*, because when the same malady occurs at an after period, the same reasons for removing it by operation do not exist. For instance—1, If, then, (at a late period of life), the disease continue for very many years, it is not by any means so liable to be converted into a more unmanageable description of malady, so that a time of choice is as it were, allowed us; on this account it would be manifestly improper to select, for the purpose of performing an operation, the period of inflammation, just when the eye is very unfavourably situated for such a proceeding; 2, The eye is perfectly developed, and its growth cannot, therefore, be arrested, as it may be if an operation be

too long delayed, as in the case of congenital cataract; 3, The sensibility of the retina *has been* perfect, and *has been* exercised, so that atony of that important part is not likely to take place from the oftentimes temporary, and always partial, discontinuance of its natural stimulus, as occurs in the instance of cataract (traumatic or otherwise,) affecting only one eye, in elderly persons; 4, The question of personal appearance is comparatively of little importance, &c.

Cataract occuring in young persons is now generally treated by the anterior or posterior operation of solution. In performing either of these operations, we are very properly directed to destroy the anterior capsule to an extent at least equal to the size of the natural pupil; but I am convinced this important direction is by no means sufficiently attended to. In the operation of keratonyxis, owing to the difficulty of moving the needle about in a texture like that of the cornea, without causing the escape of the aqueous humour, the capsule is sometimes merely divided; a portion of the cataract escapes into the chambers of the eye, and perhaps a small quantity of the soft flocculent lens is interposed between the lips of the incison in the capsule. So, also, in the posterior operation of solution, the needle, having passed through the lens towards its margin, is, indeed, pushed through the anterior capsule, if that membrane be healthy, but if unusually thick and tough, it may be *raised upon* and *pushed before* its point; but in depressing its point with a view of lacerating the capsule, it will, very often I fear, pass nearly through the same aperture at which it entered, into the substance of the lens, where it may be moved about with much apparent, but little really useful, effect. Now, in such cases, what is the result of these proceedings? The wound of the capsule heals very readily, if no portion of the lens be interposed between its edges, and there is scarcely any vestige of the puncture; but if any portion of the lens protrude through the opening, it is gradually absorbed, and there remains an opacity of the capsule of a greater or less extent. The capsule being not at all, or only very slightly, opaque, proceeds to the absorption of the lens, which it generally accomplishes; it then becomes opaque; its two layers meet, or they become united, and constitute a thick, tough, opaque texture, which is, in fact, worse than the original disease. Sometimes, when the posterior operation of solution has been

performed, the injury to the capsule may have been more extensive than I have now stated, but still not sufficiently great to permit the discharge of the whole of its contents, nor to destroy its opacity until it has completely absorbed the lens, when, having become, as it oftentimes will do, inflamed, it generally secretes a lymphatic matter, by means of which the capsules, the iris, and an intervening mass of lymph are united, and remain as a future obstacle to vision. Hence, then, arises the necessity—and the fact cannot be too frequently presented to the notice of junior practitioners—of making a free laceration, and extensive comminution of the anterior hemisphere of the capsule, at a *first operation*, namely, to prevent the occurrence of that form of disease in which the two layers of the capsule meet or become united, form adhesions to the iris, and constitute an obstacle to vision which nothing short of extraction can entirely remove. The importance of preventing the *secondary* disease, by a due attention to the treatment necessary for the perfect cure of the *primary* affection, is manifestly very great.

[Mr. Middlemore then goes on to say]

I now proceed to explain the operative proceedings it is the main object of this communication to recommend; and it will be understood they are adapted to those cases of traumatic, or other forms of cataract, occurring in infants or young persons. For, if traumatic cataract, not attended with displacement of the lens, occur after the latter age, the necessity for an operation is much less than at an earlier period, chiefly because the lens is less prone to become absorbed, and the capsule to undergo those changes which so generally occur in younger subjects. And here I beg to state that, on one or two important points, I entirely differ from preceding writers. First, in pointing out that, when the lens is rendered opaque in infants and very young persons by the application of accidental violence, it is *absolutely necessary* to cause its removal by a surgical operation, unless, indeed, it be at the same time displaced, or associated with other injury necessarily destructive to vision; and secondly, in stating that when this accident occurs in early life its cure should be attempted, not by the operation of extraction, which, for aught I know to the contrary, some persons may be injudicious enough to perform, but by that of solution.

Operation.—If a child have sustained an injury of this description—the cornea not being much injured; the inflammation produced by the accident not being severe; the lens opaque, but not displaced;—I prepare the eye for operation, by applying belladonna to the eyelids, and bind up the healthy organ. Having steadied the eye by means of the fingers of an assistant, (I scarcely ever use a speculum) if operating upon the left eye, and by the agency of my own if operating upon the right eye, I introduce the needle through the sclerotica, as for the posterior operation of solution, and, by continued and varying movements, lacerate the capsule as freely as possible, to an extent equal, at least, to the size of the pupil in its ordinary state of dilatation. Having done this, bearing in mind that the needle is slightly curved, I very gently withdraw it, keep the patient in a darkened apartment, and employ any antiphlogistic or other measures the after course of the case may render necessary. The daily application of belladonna is requisite, with a view of facilitating and rendering more perfect the solution and absorption of the comminuted lens and its capsule.

Let it be remembered that, as the object of this operation is to prevent the establishment of a secondary form of disease (tough capsular cataract,) which usually occupies in its development several months, it is not imperative to perform it so soon as the opacity of the lens appears; neither is it advisable to do so until all acute inflammation has been subdued; in this respect differing from some cases of dislocation of the lens, which may demand the prompt performance of a surgical operation.

Sometimes it is necessary to perform a second operation, but this seldom happens if the first operation is practised with the necessary care, except in those caseswhere the lens has become opaque independently of any local injury, which has caused the laceration of the capsule. So that a first and single operation for congenital cataract affecting the whole lenticular substance would not be so likely to be perfectly effective as would the same operation performed upon the eye of an infant suffering from traumatic cataract. In fact, in the case of congenital cataract, a single operation will not by any means, always effect the entire removal of the disease, however carefully and perfectly performed.

I shall conclude with the following condensed summary of the more material statements contained in the preceding remarks:—

1. *Proposed operation.*—Posterior operation of solution with very free laceration of the capsule.

2. *State of Disease or Injury to which the proposed operation is adapted.*—Any injury of the eye, occurring in infants, or persons not more than thirty years old, and producing opacity of the lens *in situ*, but not occasioning any extensive wound or injury of the cornea, or other part of the globe, necessarily destructive to vision. Should the soft lens, uncovered by its capsule, (which has been extensively torn by the accident,) be thrown from its natural situation, either into the pupil or the anterior chamber, the operation is not required; first, because the supposed free laceration of the capsule protects the patient from the occurrence of capsular cataract; and secondly because the youthfulness of the patient, and the softness of the lens, render almost certain the disappearance of the cataract without the performance of a surgical operation.

3. *Time at which an operation should be performed.*—As soon as acute inflammation has subsided, and any inflammation the globe, or any injury the cornea has sustained, has been either much moderated or altogether subdued. Just as, in other instances, when about to perform a surgical operation, we get the parts, upon which we propose to operate, in as quiet and tranquil a condition as possible beforehand, so here we act on the same principle, and, by freeing the eye from inflammation, place it in the most favourable state we can to sustain the irritation occasioned by the operation we propose to perform. The operation is not suggested with a view of relieving pain or inflammation, or with the intention of preserving the vision of the opposite eye; for it is presumed that a somewhat slight wound of the cornea, and opacity, without displacement of the lens, will neither produce serious inflammation or severe pain of the affected eye, nor endanger the vision of its fellow. It is performed with a view of restoring the sight of the injured eye, and of preventing the establishment of that form of capsular cataract which, as I have previously explained, is always difficult of management.

Medical Gazette, July 31, 1840, *p.* 721—725.

[Professor Jüngken takes the same view with respect to the necessity of freely dividing the capsule of the lens, as may be seen by referring to a paper by Dr. Franz in the *Medical Gazette*. Referring to Mr. Middlemore's opinion of the necessity "of making a free laceration, and extensive comminution of the anterior hemisphere of the capsule at a first operation," Dr. Franz proceeds to say:]

The best method of following this indication, and attaining the end desired, is in my opinion, a modification in the operation for solution, which I have seen adopted with great success by Professor Jüngken, and which I have not met with in any of the numerous writings on ophthalmic surgery in the English language, and therefore think worthy of submitting to the profession. After passing the needle either through the cornea or sclerotica, Professor Jüngken divides the anterior wall of the capsule in its whole diameter, in four different directions, through its centre. By these means eight flaps are formed, which soon retract behind the iris, and thus leave the pupil perfectly clear. The lens is now divided in different directions, more or less according to its consistence. A few smaller pieces of the lens are brought into the anterior chamber, and the nucleus, or one or two larger pieces, are pressed backwards into the vitreous body through the centre of the posterior hemisphere of the capsule, which is partly destroyed. The needle is now withdrawn from the eye. This method insures the entire removal of lens and capsule from the pupil, and as the smaller pieces of the lens in the chambers of the eye are soon absorbed, a cure is more readily accomplished.

I have again modified this operation, and perhaps improved upon it; for as in pressing the nucleus of the lens into the vitreous body through the centre of the posterior capsule this latter is not entirely destroyed, and the ramifications of the arteria centralis in the posterior capsule are greatly injured, which lesion might have for its consequence an opacity in the centre of the capsule, I prefer pressing the nucleus not through the centre of the capsule, but through a point somewhat nearer to its periphery. On this principle I have already operated, and in lacerating the capsule out of the axis of vision, and in offering less injury to the small branches of the artery, all possibility is removed of an opacity following, which might interfere with sight.

Medical Gazette, Aug. 14, 1840, *p.* 798.

115.—ON THE EXCISION OF DISEASED JOINTS.

By Bransby Cooper, Esq., F.R.S., &c. &c.

[The removal of diseased articulating surfaces may certainly be ranked amongst the greatest triumphs of modern surgery. Instead of leaving the disease to wear out the constitution of the patient, or amputating the limb and thereby crippling him for life, the joint is boldly laid open, the diseased portions excised, and the wound allowed to heal by granulation: taking care to place the limb in the most suitable position for its after use, after anchylosis has taken place.

Mr. Cooper gives us an excellent lecture on this subject in the *Provincial Medical and Surgical Journal*, from which we extract the following case.]

There was considerable hard tumefaction about the joint itself, extending upwards nearly to the middle of the humerus, and downwards over about a third of the radius and ulna. A livid inflammatory blush extended over the surface of the swelling. The two sinuses I have mentioned communicated with the joint, the structures of which seemed completely disorganized; motion causing the grating sensation peculiar to denuded bone. Flexion of the fore-arm upon the arm, and the motions of the wrist joint and fingers were very imperfectly performed. When the joint was at rest he was free from pain. Bowels regular. But he was loosing flesh, and complained of general debility.

[The operation is described as follows:]

The patient was laid on his abdomen, and the diseased arm was flexed over the back of a chair, an excellent support being thus given to the joint, while it afforded me a perfect view and control over it. I then made an incision from above downwards, about three inches in length, over the external condyle, and followed it by a corresponding and parallel incision immediately to the inner edge of the olecranon process, connecting the two by a third and transverse cut. Having dissected back the flaps thus formed, and separated the tendon of the triceps from its insertion, I removed about an inch of the olecranon process by a common saw, an assistant at the same time carefully retracting the ulnar nerve. The joint was now fully exposed to view, and

I removed the diseased portions of the humerus and ulna, chiefly by means of a scalpel. The head of the radius was almost free from disease. The patient did not appear to suffer extraordinary pain. The hæmorrhage was slight and chiefly venous, no artery being divided of sufficient size to require the ligature. After a short time the flaps were brought together, connected by sutures and adhesive plaster, and the patient dismissed to bed. The arm was laid on a pillow, the ulna being so placed as to form a right angle with the humerus. Warm water dressing applied.

I shall not trouble you with the daily reports of the case; but on the evening after the operation he complained of pain about the joint, but this was altogether relieved by the removal of the sutures. The febrile symptoms which arose were moderated by saline aperients. His health has been improving; he sleeps well; he suffers very little pain; and a healthy discharge proceeds from the wound, which is rapidly filling up by granulation.

Now, as to the *rationale* of the operation, I cannot help believing that those who have recommended the excision of joints, have dwelt too strenuously upon its advantages, as to the quantity of diseased structures which, by mechanical means, they remove. In my opinion, the great benefit which is derived is from exposing and perfectly laying open all the affected tissues, so that nature is not herself obliged to produce sinuses and ulcerations through the soft parts. It is not the quantity of bone you cut away, but, by exposing a large surface, you allow the diseased tissues to readily come away, instead of burrowing through the soft parts. No more should be removed than is evidently already destroyed by disease, and we find that this is generally confined to the articulating surfaces alone of the bones implicated. If you remove beyond this, you do no good, but, on the contrary, detach muscles which would otherwise have been of the greatest service to the new joint, and thereby render it far less capable of natural and useful motion; while, if you operate as I advise, or if the process be left to nature, those parts are alone thrown off, or removed, which can be dispensed with, compatible with the preservation of a useful limb.

Provincial Medical and Surg. Journal, Nov. 7, 1840, *p.* 98.

116.—TREATMENT OF VARICOSE VEINS.

By M. Bonnet, Chief Surgeon to the Hotel Dieu, Lyons.

[In our first number, p. 146, will be found a very interesting article on this subject by Mr. Dodd, and as reference is there made to M. Bonnet, we think it right to give his views; more especially as he differs in opinion as to the efficacy of needles and ligature, as employed by both Mr. Dodd and Mr. Phillips.]

Having lost confidence in the use of pins, twelve patients were then operated upon with potass alone, and this series of observations confirmed M. Bonnet more and more that the treatment of varices by this alkali was the only one of all the means he had employed which afforded a simple, certain, and durable cure.

The rules for the application of the potass are as follow:

1st. Many portions of caustic must be applied on the course of the dilated vein at intervals of two or three inches.

2nd. The application should not be made except in those parts of the veins which correspond to the muscles. The only places where it should be applied are on the superior half of the leg, and inferior half of the thigh.

3rd. The caustic must be applied at least twice at the same point, in order to reach the vein. This supposes that it is necessary, in order to obliterate the veins, to reach and open them with the caustic. In no case after the first application which only destroys the skin and a little cellular tissue, has the flow of the blood been found to have ceased in the veins, and they never are found converted into a hard cord impermeable to the blood. It is only after being opened that these changes occur. M. Bonnet leaves it a matter of discussion whether it would be preferable to open the veins by a single application of a sufficiently large piece of potassa fusa, or by applying a second portion in the centre of the eschar formed by the first.

The danger arising from phlebitis naturally presents itself as likely, both by theory and analogy, to arise from this operation; facts, however, speak differently since of twenty patients fourteen of whom were treated with the potass alone, and six by the combination of potass and pins, M. Bonnet has not even once seen a tendency in the inflammation to propagate itself along

the course of the veins, although three or four applications of potass had been made on different parts of their course, and in the greater number had opened their cavity; the inflammation was, therefore, in all these cases, limited by the bonds of adhesion, and perfectly circumscribed.

These results prove that cauterizing of the veins with caustic potass does not expose the patient to the danger of phlebitis; "and," says M. Bonnet, "finding every day proofs of the innocence of this remedy, I now take no other precaution than that of confining my patients to bed." They are permitted to follow their accustomed regimen, to have the half or three-quarter portion, (equal to the middle diet of our hospitals.) The dresser of the ward applies the caustic on their veins as if inserting a common issue, so that they never suspect that an operation is performing. Finally, the inflammation developed around each eschar, and the ulceration which succeeds its separation, are similar in every way to those circumscribed inflammations and ulcerations which occur when issues are established in the thigh or leg, only that the inflammation is more acute, and the ulceration deeper, on account of two portions of caustic being applied in the former case. M. Bonnet allows, however, that where two cauterizations have been performed too close to one another the areola of inflammation which surrounds them may unite and cause a genuine phlegmon.

Dublin Journal of Medical Science, Sept. 1840, *p.* 108.

[M. Jobert seems to agree with M. Bonnet, and as the English cases were not watched for any very considerable time after the operations, we are bound to pay attention to his opinion.]

He relates six cases, and states that he could describe twelve others, in all of which the treatment of varicose veins by producing the obliteration of their trunks by needles and twisted sutures, or other means, though at first it seemed promising, had ultimately proved completely unsuccessful. In all the patients who were thus treated the varicose ulcers returned a short time after they left the hospital, as it was believed perfectly cured; and the return took place in these cases more rapidly than in all probability it would if only the ordinary treatment by rest, poultices, and bandages had been pursued.

British and For. Medical Review, Oct. 1840, *p.* 577.

[The practice of M. Laugier, as recommended by Mr. Clay of Manchester, differs in some respect from the preceding. He lays the vein bare before applying the caustic, and then applies it on the vessel itself, protecting the surrounding skin with lint. Mr. Clay gives the following case as an example of this mode of treatment.]

Betty Whitehead, ætat 27, applied at the dispensary for relief; she was unable to follow any employment, in consequence of large varicose veins occupying the whole of the inner surface of the left leg from the knee to the foot; the circumference of the affected leg was nearly double the other. Liniments and bandages were of little use, and as the leg daily became worse, she submitted to the operation on the 25th July.

Assisted by my colleague, Dr. N. Strange, I laid the vein bare in two places, about six inches apart, each opening of the integuments being a little short of an inch, and the vein being exposed to the extent of half an inch. Great care was required in the first incisions lest the vein, which is generally very superficial, should be injured. A piece of lint one inch and a half broad and four inches long, in which a cut of half an inch was made with a knife was then prepared; and after waiting a few minutes for the bleeding to subside (which is very trifling, but yet sufficient to prevent the due operation of the caustic paste,) I placed the lint crossway over the wound, so that the exposed vessel and the fissure in the lint approximated to each other. A piece of stiff Vienna paste was then formed in the shape of a wedge, of about half an inch square, the pointed edge of which was pressed through the cut in the lint down upon the diseased vessel steadily and rather forcibly, and the loose ends of the lint were turned over the back of the wedge with a strap of adhesive plaster to bind down the whole. The same plan being employed to both incisions, she was instructed to keep the leg quiet. The principal pain was over in half an hour, and that was of but little moment.

In three days a large slough was formed, and at this time the leg was reduced to its natural size, the varicose appearance had vanished, and an ulcerous sore on the internal malleolus was healing rapidly, which had before resisted every application. Mild poultices were applied to the sloughs, which fell out in about fourteen days. The sores are now nearly healed, and the woman has resumed her employment.

This case differs from the plan pursued by M. Laugier, inasmuch as the bleeding from the first incisions was of so trifling a nature, that no nitrate of silver was used to check it; and this, which is spoken of by Laugier as being the most painful part of the operation, is done away with by waiting a very few minutes. Again, by making the Vienna paste very stiff, it is easily formed into a wedge; and, by pressing it in that state through the lint, it adapts itself nicely to the diseased vessel, while the lint covers the lips of the wound, and the wrapping of the ends over the wedge leaves no caustic to clear away. The paste I use consists of equal parts of dry powdered lime and the caustic potass, with only just sufficient moisture to make them into a stiff paste."

Lancet, Aug. 29, 1840, *p.* 816.

[In a clinical lecture delivered by Mr. T. P. Teale, at the Leeds General Infirmary, the following interesting remarks are made, and we believe a novel mode of treatment described, respecting varicose veins.]

The extent to which the vein is obliterated or contracted below the eschar is seldom great, the good effects of the operation being generally not experienced beyond three or four inches below the eschar, or not beyond the point where considerable anastomotic branches exist. From ignorance of this fact in some of our earlier cases, the success was not complete, the caustic having been applied too high upon the trunk of the saphæna, under the idea that all the branches below would be obliterated by deposits of fibrine. Subsequently, the success of the treatment was greater, from the caustic having been applied upon varicose branches not more than two or three inches above the ulcer, care being taken that no large anastomotic branch intervenes between the eschar and the ulcer.

This plan of treatment, however, has not been altogether unattended with inconveniences. In three of the earlier cases, hæmorrhage occurred, from the patients being allowed to resume the erect posture, and to take exercise soon after the separation of the eschar. This accident has, however, since been effectually prevented, by insisting upon the recumbent posture being preserved until the sore produced by the caustic has advanced considerably in the process of granulation. Another, and often a most serious inconvenience attending this plan of treatment,

is the indolent character of the artificial sore, which sometimes does not heal until several weeks after the original ulcer is cicatrized.

So serious is this objection to the general employment of caustic in the treatment of varicose veins, that it has become desirable to attempt some other mode of treatment which may prove equally efficient, but less objectionable. With this object in view, I have lately in several cases adopted a plan of treatment, on the suggestion of my brother, who had successfully employed it in a case under his care. This treatment consists in the employment of pressure through the medium of what has been termed the "immoveable fracture apparatus."

You must not conclude that this or any other plan of treatment will in all cases be a certain protection against relapse. The recurring operation of the causes of varicosity will undoubtedly be sufficient to reproduce the disease. Any mechanical interruption to the free return of blood, as pregnancy, or even the long-continued operation of gravitation in those whose occupations require the long maintenance of the erect posture, will be capable of inducing a relapse.

All cases should be rejected in which there exists a *permanent* mechanical obstruction of the veins, as tumor in the groin, pelvis, or abdomen, enlargement of the liver, disease of heart; and more especially should those cases be rejected in which there exists obstruction of the large veins of the thigh or pelvis from deposits of fibrine in their interior. Such deposits are not an unfrequent result of previous inflammation of these veins, occurring in the puerperal state, and producing the indolent tumefaction of the limb termed phlegmasia dolens. Pelvic and crural phlebitis, however, is far from being limited to the puerperal state; it is also frequently produced by imprudent exposure to cold during the catamenial period; and even in the male subject it sometimes occurs, and a similar obstruction of the veins is the result. In these cases the enlargement or varicosity of the superficial veins of the leg and thigh ought to be regarded as an effort of nature to compensate for the obstruction, by establishing a collateral venous circulation; and in attempting to reduce the size of these veins, we should only be counteracting her salutary efforts.

[These remarks are illustrated by the following case.]

John Grant, aged 45, of spare habit, but of general good health, was admitted into the Leeds Infirmary, Sept. 8th, 1840, under the care of Mr. Teale, on account of ulcers of the leg.

After he had been purged freely and confined to bed for two days, lint was applied over the sores, and the entire leg from the toes to the knee was enveloped in the "immoveable fracture apparatus," consisting of calico stiffened with mucilage and chalk. The material employed for this purpose is similar to that which was stated to be in use at St. Bartholomew's Hospital, and consists of a kind of pasteboard, formed by two layers of thick calico cemented together by an interposed stratum of mucilage and chalk. Two portions of this pasteboard, adapted to the form of the leg, and softened by immersion in tepid water, are applied to the leg, and retained by a spiral calico bandage, over which is spread a layer of mucilage and chalk, and afterwards a second spiral bandage.

After the apparatus had been applied eight days, a slight degree of putrid odour was perceptible, and there was some appearance of matter oozing through the bandages at the situation of the ulcers; the apparatus was therefore removed, when the ulcers were found to be much diminished in size, the varicose veins no longer perceptible, and their thickened parietes could not be felt beneath the skin. The sores were dressed with lint, wax ointment, and a light bandage.

Oct. 9th. Ulcers healed. No return of varicosity.

Provincial Medical and Surg. Journal, Nov. 21, 1840, *p.* 132.

117.—APPARATUS FOR PROMOTING RESPIRATION IN CASES OF SUSPENDED ANIMATION,

By Dr. Dalziel, of Drumlanrig. Communicated by Dr. Lewins, of Leith.

In the case of a seaman lately brought to the Humane Society's rooms here, I found Dr. Dalziel's apparatus to answer the purpose completely, so far as respiration was concerned. The dead body was made to breathe in such a manner as to lead the bystanders to suppose that the unfortunate individual was restored to life.

In consequence of the patient's body being enclosed in the interior of the apparatus, the elevation and depression of the chest were not perceptible, but the effects of the air entering into and returning from the lungs were very visible on the cheeks, the lips, and also of the nose. A lighted candle was extinguished by being held under one nostril, and again lighted by being placed opposite to the other.

I shall prepare a statement of the case referred to, and with Dr. Dalziel's leave, have a drawing made of the apparatus, which, with such remarks as the subject suggests, I shall transmit for insertion in the next number of your journal.

The principle on which Dr. Dalziel's apparatus acts is, that the body, with the exception of the head, be in vacuo, or nearly so. This is easily done by putting the body to be operated upon, in a box that can be made air-tight. On the top, a large syringe is placed which communicates with the interior.

By elevating the piston of the syringe, a partial void is created, to fill up which, the air of the atmosphere rushes into the lungs through the trachea, and distends the chest. Expiration is accomplished by depressing the piston.

Edinburgh Medical and Surg. Journal, July 1840, *p.* 255.

118.—ON TORSION OF THE ARTERIES.

Dr. Remak recommends a modification of the operation of torsion of the arteries, which consists in seizing the vessel transversely with a pair of sharp wedge-shaped forceps, and then pressing forcibly, so as to divide the internal coat. The extremity of the artery is then seized with another pair of forceps and twisted, while the torsion is prevented from extending up the artery by the first pair. The vessel is thus less injured than in the common proceeding, and the internal coat, which shrinks after being divided, offers an effectual barrier to the blood. The operation was tested experimentally upon a horse: the carotid was divided, and torsion, performed as recommended above was sufficient to restrain the hemorrhage, even when the horse was made to trot briskly.

British and Foreign Medical Review; and American Journal of Medical Science, Feb. 1840, *p.* 473.

119.—IODINE, AS APPLIED TO REDUCE ENLARGEMENT OF THE THIRD LOBE OF THE PROSTATE GLAND.

By R. A. Stafford, Esq., Surgeon to the St. Marylebone Infirmary.

The methods I have employed for the treatment of an enlargement of the third lobe of the prostate gland are, the application of certain substances upon it; puncturing the part with a particular instrument I have invented, and perforating it with the urethral perforator, according, in all cases, to the extent of its increase of size. If the third lobe has only partially enlarged, I have then employed remedies, such as iodine, the iodide of potassium, belladonna, &c., locally, always in a diluted form, and combined or uncombined with other substances as the urgency of the case might require. If it be so large that it will not yield to the application of these substances, I have in some instances punctured it with advantage, and when its volume has been so great as to block up the neck of the bladder and cause retention of urine, I have then been under the necessity of perforating it.

After remarking that it was the effect of iodine over glandular swellings which led him to think of its employment in enlargement of the prostate, he proceeds:

"I felt it easy to make it to be absorbed through the substance of the prostate gland, by using it in suppositories passed up the rectum, but the difficulty was to apply it on the third lobe without touching any other part of the urethra. I made several attempts to accomplish this; first, through a tube, then in a groove at the end of a solid instrument, then by the method by which caustic is applied to a stricture, according to Ducamp's plan, and others; but none of these answered. I at length thought of a very simple mode of applying it, which is by charging a bougie at its point with the *iodine, iodide of potassium*, or any other substance you may wish, and then dipping it into melted tallow so that a coating may be formed upon it. By such method I have been enabled to introduce any application I might desire up to the prostate gland, without touching the surface of any other part of the urethra. The bougie having reached the desired spot, its point is allowed to rest upon the

diseased part, when the tallow gradually melts and brings the iodine or iodide of potassium into contact with it, and by drawing the bougie gently backwards and forwards the necessary friction is produced. I have found it advisable to be very cautious as to the strength of the application, for the prostate gland will not bear a strong preparation either of the iodine or iodide of potassium at first. It is usually in an irritable or inflamed state; consequently, even the mechanical pressure of the bougie will give pain. The preparations I have used therefore have been very mild. At first I have found it necessary to employ even anodynes, such as belladonna, opium, hyoscyamus, &c., to quiet irritation and pain. When these have subsided, I have begun carefully by introducing the iodide of potassium in the proportion of *one grain to the drachm* of *unguentum cetacei*, and increasing it as the patient could bear it. I have then gone on with two, three, four, five, and even as far as ten grains, or a *scruple* to the drachm, according as the case required it. After this I have added iodine to it; half a grain, one, two, three, four, or even more grains in the same manner. The surgeon who applies it can alone judge of its effects."

In the *third* and last place, the author relates three cases where he perforated the middle lobe of the prostate gland. When the swelling is so great that the neck of the bladder is completely blocked up, and no catheter can be passed onwards into the interior, the patient must be relieved at all hazards, else the bladder will slough or urinary coma will succeed. Under these circumstances, the surgeon is reduced to the alternative of either puncturing the distended organ, or carrying an instrument through the seat of obstruction.

By the use of a small elastic catheter without a stilette, we have succeeded in relieving retention of urine under the most urgent circumstances. We should say, as a general rule, that the greater the swelling, the less chance there is of passing a stiff, curved instrument. If, after the trial of all ordinary expedients, the bladder still remains unrelieved, then the best and safest plan is unquestionably to perforate the obstruction. The perforation is easily accomplished, and is never followed by disagreeable effects.

British and Foreign Medical Review, Oct. 1840, *p.* 529—531.

120.—NEW OPERATION FOR PROLAPSUS ANI.

By M. Robert.

Relaxation of the sphincter ani being the cause of this disease, all the remedies hitherto employed for its cure are inefficacious when it arrives at the last stage, as they can only act on the mucous membrane of the rectum. These reflections have induced M. Robert to shorten the sphincter in proportion to the amount of relaxation, so that the two cut surfaces of the muscle might unite and form a narrow ring to oppose to the descent of the mucous membrane. This operation was performed with success on a washerwoman, thirty-three years of age, in June 1839, in the hospital of La Pitié. This woman in her third pregnancy had a prolapsus ani, which was only temporary though it caused some pain. Her fourth pregnancy produced a prolapsus uteri, a permanent and considerable prolapsus ani, with relaxation of the abdominal walls. M. Robert excised a portion of the mucous membrane with some temporary relief; but the disease afterwards increased, the discharge of fæces became involuntary, and she suffered from pains in the loins and upper parts of the thighs. When she entered the hospital the sphincter was so much relaxed that four fingers could be easily introduced.

The patient having been prepared for the operation by progressive diminution in diet, and the use of opium, in order to effect long-continued constipation, M. Robert proceeded to operate in the following manner:—An incision was made on each side of the anus, each incision being commenced a few lines external to the orifice, and carried backwards towards the coccyx. The fold of integument between the incisions, together with the portion of sphincter it covered, were removed, and the muscle was thus shortened by half its length. The wound was united from one side to the other by three points of suture. On the sixth day after the operation the sutures were removed. Union was nearly complete, but a fistulous passage remained from the anus to the coccyx. On the fifteenth day the woman had not passed any fæces. On the next day, the want of defecation being felt, in order to prevent any straining, the bowels were relieved by the curette. On the forty-first day the patient, who before the operation could not retain her fæces, kept an injection during the whole day; there was no more pro-

lapsus; the opening had become of the ordinary size; but the finger when introduced did not experience the energetic contraction of the sphincter which occurs in the normal state. With the exception of a slight protrusion of mucous membrane the cure was complete in August.

British and Foreign Medical Review, Oct. 1840, *p.* 568.

121.—THE GUILLOTINE FOR EXCISION OF THE TONSILS.

AS RECOMMENDED BY CÆSAR HAWKINS, ESQ.

[By means of the simple instrument here described by Mr. Hawkins, we think that this troublesome, and sometimes, tedious operation will be rendered one of the simplest in surgery. Mr. Hawkins says, in a letter to the editor of the *London Medical Gazette,*]

I have found an instrument, which I have been in the habit of using for some time past, so little known to surgeons, who are constantly performing this operation, and so many medical friends, to whom I have recommended it, have been delighted with the facility with which the tonsils can be removed by means of this instrument, that I am induced to draw your readers' attention to it, as a great improvement in surgery. I can do this with greater confidence, because I do not claim the merit of the invention, but only of two or three little alterations in its form, which facilitate its operation.

The instrument is a kind of guillotine, invented by Dr. Warren, of America, or at least recommended by him, which excises the tonsil with great ease, and without the possibility of cutting any thing which is not purposely included in it by the operator. A hole of an oval shape is made at one end of a plate of metal, which is gently pushed over the tonsil, and a concealed blade runs in a groove of the plate, and is pushed forward so as to cut off exactly so much of the tonsil as the surgeon causes to project into the hole. The grooved plate has a handle, which can be held in either hand for the right or left tonsil, and the tongue is kept down by the instruments or by the finger of the other hand, and the moveable blade has a little concave knob receiving the thumb of the same hand which holds the handle, by which the blade is pushed forward across

the hole, so as to separate the protruding tonsil as it passes; and the excised portion adheres to the blade after the division, so as easily to be pushed forward out of the mouth before it can drop into the fauces. The introduction causes very little irritation of the fauces, because its action is by pressure, instead of dragging on the tonsil, as the tenaculum does in the common manner of operating, and the bleeding is very trifling, and the subsequent inflammatory soreness as much less than in the usual operation as the time is shorter in its performance. I have found two different sized instruments sufficient for very young children, or for adults; but they can, of course, be made of any size required.*

Medical Gazette, Jan. 31, 1840, *p.* 706.

[The *uvulatome* for excision of the uvula, is an instrument apparently made on a somewhat similar principle, although differing in some respects; it is]

A novel and most ingenious instrument, invented by Mr. John Millikin, of Dublin, for excising any portion of the uvula which it may be desirable to remove. It is a forceps having a sliding blade on the upper surface. The portion to be removed is taken hold of by the forceps, and secured by a small bolt projected by the thumb; the fore-finger then projects the cutting blade, which cuts off the desired portion in a moment, which being held by the forceps is brought out of the mouth. This instrument renders the operation an affair of a few seconds—it is simple, ingenious, and effective. The inventor of the uvulatome has, we understand, several other new instruments in progress, which we shall have pleasure in introducing to the notice of the medical public on this side of the Channel.

Medical Times, July 4, 1840, *p.* 178.

122.—EXTRACTION OF AN OVARIAN CYST.

By B. Phillips, Esq., F.R.S., Surgeon to the Marylebone Infirmary.

[We give the following very interesting case of extraction of an ovarian cyst because we think it proves that the surgeon is

* The Instrument may be procured at Messrs. Philp & Co.'s, St. James' st., London.

warranted to undertake it, although in many cases it has been unsuccessful. It will be seen that this case would in all probability have terminated favourably had it not been attended with other disease.]

There are certain circumstances which are held to be favourable for the success of the operation. A single cyst containing only fluid matter; the absence of adhesion to the abdominal parietes; and a good condition of the general health. Of these, the latter is the only one which can be satisfactorily made out; with respect to the first and second we cannot go beyond probable conjecture. However, adhesions, and even the existence of a solid portion in the tumor, are not held to preclude us from the operation; because both have been successfully surmounted.

A. D., aged 21, had tolerably good general health up to last Christmas, when she experienced a heavy, but not intense, pain in the right iliac region; gradually this subsided. and she then perceived a slight enlargement or tumefaction about the umbilical region: this continued steadily to increase, and was accompanied by some pain in the same region.

[She consulted several of the most eminent medical men in London, and amongst the rest, Dr. Locock and Dr. Hamilton Roe, who both advised the extraction of the cyst. Mr. Liston was of a contrary opinion, and could not advise its removal by operation.]

After twice examining her, satisfying myself that there had been no peritonitis, that there were probably no adhesions, that her distension was fast increasing, that she was daily becoming less and less capable of getting about, that her health was beginning to suffer, and that she had then probably fifteen or sixteen pints of fluid in the cyst, I reiterated Dr. Locock's advice.

[This advice she was determined to follow, and accordingly on Wednesday, Sept. 9th, the operation was performed as follows, in the presence of Doctors Roe and Clendinning, and several other eminent men.]

The patient lay on a bed. The first incision commenced about an inch below the umbilicus, and extended rather more than an inch and a half. It was necessary to give the cutane-

ous incision rather more extent than I at first proposed, because (strange to say, considering how great was the distension) there was three-quarters of an inch of fat upon the abdominal parietes. I dissected, carefully, until I came upon the sac: as soon as I had sufficiently exposed it, I seized it with the vulsella to prevent any difficulty of getting hold of it when emptied. It was then punctured with a trocar, and 330 ounces of a transparent, glairy, albuminous fluid was evacuated: the sac, which was extremely thick, was then drawn out through the opening, which it was necessary to enlarge slightly. The sac had no other attachment than its pedicle; the pedicle was, in fact, the Fallopian tube, to which it was firmly attached over more than an inch and a quarter. Around this tube a ligature was tightly drawn by Mr. Samwell; the ends were cut close, and the sac was detached without the slightest difficulty. Not an ounce of blood was lost during the whole operation; and when it is stated that her heart's action had not been accelerated to the extent of two pulsations during the operation, and that, at the conclusion, the pulse did not exceed 68, it must be evident that the suffering was not great. The external wound was accurately brought together with hare-lip needles, and there was no oozing of blood. From the moment of the operation there was severe pain in the right iliac fossa, which I referred to the strangulation of the tube by the ligature; there was also frequent sickness. To relieve this pain, in an hour after the operation an opiate enema was administered; it produced little relief, and in two hours afterwards, a draught, containing thirty minims of the bimeconnate of morphia was exhibited: still the pain distressed her, and in two hours more a pill containing half a grain of the chloride of morphia was administered, and late in the evening another enema, containing forty-five drops of the liquor opii sedat., was thrown up, and a draught, containing tinct. digital. ℳx.; acidi hydrocyanic. ℳij.; morphiæ chlor. gr. 1-3d, ordered to be taken every four hours. During the evening, when vomiting supervened, there was an oozing of blood from the wound, but to no great extent. It was not easy to account for it, because no vessel was wounded during the operation. The only point upon which suspicion lay was the ligature around the Fallopian tube; but as there was no evidence of blood being poured out into the abdominal cavity, the suspicion seemed vague.

[The patient for a time went on well, but ultimately died from another disease, as will be seen by the following accouut of the post-mortem examination.]

She was examined on Monday, (at 2 o'clock) in presence of Drs. Clendinning, Harrison, Lee, and others: the abdomen was soft and flat; the incised point was nearly healed. When the cavity was exposed, a diffused injection was apparent, but, with the exception of some small patches of lymph, none of the ordinary products of peritonitis existed. In the cavity from six to eight ounces of blood was found; it contained a few coagula, but it was dark in colour. Upon examining the Fallopian tube the ligature was found in its place; but it was evident that, from its hypertrophied condition, it resisted the necessary constriction, (although Mr. Samwell had used much force) and the extravasation was a consequence of oozing from the extremity of the tube. That oozing, however, had long ceased; for nature had blocked up the vessels. The opposite ovary was not healthy. Upon laying open the large intestines we found them covered with an exudation such as is found in croup—a false membrane: when this was torn off with a forceps, the membrane presented what the French pathologists term an *erosion*, which was, no doubt, the commencement of extensive ulceration, and which was clearly of some standing.

[Mr. Phillips concludes this interesting case as follows:]

Although extraction did not succeed in the case of this young woman, it did not, in my opinion, fail from any vice inherent in the operation. I say, without hesitation, that her death was caused by the state of her bowels, and with that I apprehend the operation had nothing to do. I say, with equal confidence, that had this complication not supervened, there is great reason for supposing that the operation would have succeeded. Up to the moment when that cholera-form affection was developed, fifty-six hours after the operation, the prospect was most cheering; the abdominal tenderness was greatly abated, the pulse had been reduced to ninety-two, and those who had at first no confidence in the operation, now became sanguine of a successful result. The dangers of the operation, which I had anticipated, were difficulty of getting at or extracting the cyst, the shock of the operation, and peritonitis. In the present case no difficulty was experienced as regards the first two points; and I

am fully justified in saying, that the degree of peritonitis was by no means incompatible with recovery. Acute pain followed immediately upon the operation, and continued for many hours: for some time it was a good deal confined to the right iliac fossa, the seat of the ligature, and I was disposed to refer it to the constriction of the ligature; but I am now inclined to think that it was not produced by that, but was excited by the blood which exuded from the cut surface of the tube: it was at first developed at that point, but as the blood was spread over a larger surface of the peritoneum, the pain was also spread farther. I say I am disposed to adopt this conclusion, though I may have no sufficiently satisfactory proof that blood in contact with the peritoneum will at once excite severe pain. I have only two cases to adduce in proof of such an effect.— one was an aneurismal tumour, which had burst into the cavity of the peritoneum; the pain was immediately dreadfully intense: in the other case, the spleen was ruptured by a fall: immediate agonizing pain was developed all over the abdomen: about six ounces of blood were found in the peritoneal cavity. In opposition to this opinion, I know that Mr. Gulliver has injected blood into the abdominal cavity, without exciting inflammation, or apparently pain. In our case the ligature had excited no peritonitis; the blood had, but it was not intense, though diffused; the early and energetic treatment employed had prevented its further development, had induced it to enter upon a retrograde course: this, I submit, is proved by the great abatement of pain, the lesser frequency of the pulse, the relief of the sickness, the absence of tympanitis, the ability to lie perfectly straight without inconvenience, the character of the face, and the occurrence of three good stools. The blood had ceased to ooze; the inflammation produced by that which was extravasated was fast abating, and the ligature had not proved itself apt to excite peritoneal inflammation at all. I say, then, that so far as the operation is concerned, it afforded, in the present case, a fair and probable cause to believe that it would have succeeded, if we had not had to contend with the supervening affection.

My confidence in the operation, when there is reason to believe that there are no adhesions, and that the patient's health is satisfactory, is greater than when I undertook it in the present case; and when we take into account the results of medicine,

of tapping, or of the disease left to itself, I think no one can doubt that an operation which, under adverse circumstances, has succeeded nine times out of twelve cases, ought to be resorted to, before complications or counter-indications are developed.

Medical Gazette, Oct. 9, 1840, p. 84—87.

123—REDUCTION OF STRANGULATED INGUINAL HERNIA,

BY THE METHOD OF DR. HESSELBACH.

[We extract the following, as it will confirm other cases given in this work: see Article 57, p. 162.]

Dr. Lyncker attended (April 25) a cachectic old woman, who had suffered for four days from a strangulated inguinal hernia. The belly was swollen, but not painful; the seat of the rupture was painful, but without any other perceptible change. The taxis was ineffectually employed. Leeches, cold applications, and tobacco clysters were made use of. On the following day the taxis was again resorted to but without effect.

During the night of the 26th and on the 27th of April, there came on fæcal vomiting, with great restlessness, anxiety, and debility; but there was no change in the situation of the hernia. The taxis was again carefully employed, but made no impression on the swelling. The patient would not submit to an operation. Dr. Lyncker bethought himself of the method of reducing intestinal ruptures, thus described by Dr. Hesselbach. "A strong man should place himself at the end of the bed on which the patient is lying, and, placing the legs of the patient over his shoulders, so that each knee of the patient shall rest upon one of his shoulders, his feet hanging downwards, shall then raise up the patient. The thighs of the patient are thus drawn upwards, his head and body resting upon the bed. In this position the taxis is to be repeated."

By placing the patient in the position above described, and re-employing the taxis, the ruptured bowel was suddenly reduced.

British and Foreign Medical Review, July 1840, p. 268.

Dr. Warneke recommends the following means, when those usually employed for the reduction of strangulated herniæ have failed. The patient is to take the following:—Opium, two grains; powdered belladonna root, four grains; sugar, four scruples. To be divided into eight powders, of which one is to be taken every half or quarter of an hour. The hernia is to be covered with a warm poultice, containing powdered belladonna, and bandages are to be placed pretty firmly round the upper part of the patient's thighs, close to the abdomen, to retard the return of the venous blood from the lower extremities, and render bleeeding unnecessary. The author declares that by these means all the symptoms of strangulation are speedily removed, the patient falls into a quiet sleep and a profuse sweat, after which the hernia will be found soft and easily reducible.

Medical Gazette, Oct 30, 1840, p. 222.

124.—ON SUBCUTANEOUS WOUNDS.

By M. Guerin.

Every one has heard of the proposal, or rather now the practice, of M. Guerin, of Paris, in the treatment of lateral curvatures of the spine—the subcutaneous division of several of the muscles of the back.

From what he recently stated to the Royal Academy, he has met with extraordinary success. "I have, in nearly fifty cases, divided more or less completely most of the muscles of the back and spine—viz. the trapezius, the rhomboideus, angularis scapulæ, sacro-lumbaris, and longissimus dorsi. In each of these operations, the wound of the muscle has been from three to four inches in length, and sometimes from one and a half to two and a half inches in depth, when the sacro-lumbaris and longissimus dorsi muscles were completely divided: in those cases where the trapezius and rhomboideus were entirely cut across, the bistoury traversed at least from four to five inches, or more, under the skin.

In almost every one of these cases, no local inflammation nor constitutional feverishness supervened, and by the third day

many of the patients were able to rise up and walk about without support. This most pleasing exemption from the accidents which so often follow upon ordinary wounds, is entirely attributable to the circumstance of the air not coming in contact with the freshly divided surfaces: the tendency to inflammation seems scarcely to exist, and the parts commence and complete the reparative process without interruption or pain."

In addition to a multitude of experiments performed on dogs, M. Guerin has established the perfect innocuousness of subcutaneous wounds in operations for the relief of various forms of distortion. He has divided the sterno and the cleido-mastoid muscles (separately, simultaneously, or consecutively) for wry-neck twenty-five times: in every one of these cases—the section having been made under the skin—the wound healed without the smallest trouble. Occasionally the operation was effected with considerable subcutaneous effusion of blood; but this was usually absorbed in twenty-four hours or so, and the reparative process then rapidly took place. Again, the operation of dividing the tendo Achillis for club-foot he has performed upwards of 200 times; and in all these also he has been equally successful. In the practice of other surgeons, indeed, inflammation and suppuration have followed this simple operation; but these troublesome consequences are, we suspect, always owing to the outer wound having been made too large, and the air having thereby been permitted to enter.

"That such is the case is surely sufficiently proved by the success which has attended my operations. I have now performed the subcutaneous section of different tendons and muscles in upwards of five hundred cases; and in not one instance has any troublesome inflammation of the wound supervened."

The great object, therefore, of the surgeon should be to prevent the entrance of the external air into the wound.

"From all these circumstances," continues M. Guerin, "I infer that subcutaneous wounds so quickly heal in consequence of the exclusion of the external air; and that it is from this fluid (the air) neither physically obstructing the circulation, nor chemically modifying the properties of the blood, nor altering in any degree its vital constitution, as well as from its not exerting any hurtful influence on the nerves and other parts which are protected from it, that the lacerated or divided tissues coalesce and unite by the first intention without any of the usual inflammatory symptoms."

That there is much truth in this observation is apparent from the surprising rapidity with which extensive effusions of blood are absorbed, and laceration of the soft tissues after some dislocations and bruises are healed, when there is no outward wound communicating with the seat of the injury. The great source of danger in compound fractures and dislocations is doubtless in the exposure of the lacerated parts to the action of the atmosphere. The dangerous effects of the admission of the air into the sacs of large abscesses is also well known to every surgeon.

Postscript.—The principle of subcutaneous division may be advantageously applied to other operations, besides that of the section of contracted muscles and tendons in cases of deformity.

In a recent number of the *Gazette Medicale,* we observe that M. Barthelemy, surgeon of the Hospital *Gros Caillou* at Paris, has strongly recommended this method of dividing synovial tumours. He slides a longish narrow-bladed scalpel under the integuments, and cuts the tumor fairly across in the middle, so that all its contents must be extravasated into the surrounding cellular tissue; the knife is then withdrawn by the small puncture, and firm compression is made on the part for a few days.

M. Barthelemy mentions three cases in which this mode of treatment has been quite successfully adopted. He suggests also, that perhaps other kinds of tumor may be advantageously treated in the same manner.

M. Malgaigne also has adopted in one case, where there were several ganglions or synovial swellings over different joints, the method of dividing the tumors fairly across from side to side under the integuments. He suggests its applicability to the treatment of some cases of hydrocele.

Gazette Medicale; and Med. Chir. Review, July 1840, *p.* 225.

[A case is related in which M. Guérin divided the tendons of forty-two muscles in one patient for the removal of deformity in so many parts of the body.]

The division of the forty-two muscles was effected by means of only twenty-eight punctures in the skin; and the muscles were as follows:—

On the trunk.—The great pectoral.

At the elbows.—The two bicipites, the two pronators, the two anterior radials, the two superficial flexors, the two small palmers.

On the fore-arms.—The isolated tendons of the two anterior cubitals, the four great and small palmers, the two great abductors of the thumb.

At the Knees.—The two sartorii, the two crural bicipites, the two semi-membranous, the two semi-tendinous, the two inner recti, the two external lateral ligaments, the fascia lata.

At the feet.—The two tendons of Achilles, the two anterior crurals, the two common extensors, the two extensors of the great toe, the two anterior peroneals.

The operation lasted an hour, and was performed with very little pain to the patient. The inflammatory action supervened, and on the third day the external openings were cicatrized. The arms and legs are in part restored to their natural direction.—This universal deformity arose in consequence of a fall and shock of the nervous system, during his infancy, which had produced a contraction of all his limbs. Extension by mechanical means had been tried without the slightest beneficial result.—It will be remarked that the success of these operations is only partial. Perhaps other incisions may be necessary for complete success. M. Guerin, in his report to the Academy of Sciences, says not a word as to the result.

Medical Times, Sep. 19, 1840, *p.* 310.

[Dr. Laycock of York, writing on the subject, states]

On September 11, I operated on a case of lateral curvature of the spine, dividing the trapezius and rhomboid muscles by two subcutaneous incisions. The two wounds were quite healed on the fourth day, and the patient never ailed anything. I have also had two successful squint cases, seven or eight of talipes, two of contracted wrist, (dividing the radial and ulnar tendons,) one of contracted elbow, (dividing the biceps.)

I shall shortly operate on four more cases of distortion, namely, a wry-neck, a contracted shoulder, a contracted hip, and a contracted knee. I believe you may divide the muscles, &c., under the skin to any extent.

Dublin Medical Press, Oct. 21, 1840, *p.* 259.

[The following case is given by Mr. G. B. Childs: but the result of the operation is not mentioned.]

On examining the back, I found the deviation to extend from the last cervical to about the sixth dorsal vertebra: below this

the vertebræ suffered no displacement, but occupied precisely the mesial line of the back,—a circumstance most unusual in a case of so long standing. The right shoulder was considerably elevated above its fellow, with a corresponding displacement of the clavicle, but there was no excurvation of the ribs: on either side they retained their natural situations.

The rhomboid and trapezius muscles were greatly enlarged, and by bringing the forearm across the chest were so stretched that a finger could easily be passed beneath the rhomboideus minor. The muscles on the left side were so diminished in bulk that they could scarcely be traced,—a circumstance I hold of great importance in the operation.

The patient being placed in the prone position, with the chest considerably elevated, and the head hanging over the table, Mr. Coulson produced tension of the muscles on the concave side of the curve by drawing the left arm forwards, whilst Mr. White, by raising the right shoulder upwards and outwards, kept the rhomboid and trapezius on the stretch. I then introduced my knife (which was about four inches in length, and the eighth of an inch in breadth) as close to the ribs as possible, midway between the inferior angle of the scapula and the spinal column, and carried it upwards as far as its superior angle: I then withdrew the knife, bringing its cutting edge in contact with the anterior surface of the muscles, and as close as possible to the integuments, without wounding them, and in this way completed the operation, which occupied less than a minute. The loss of blood was trifling, and the patient complained of very little pain.

Medical Gazette, Nov. 27, 1840, *p.* 370.

125.—SEAT OF BLENNORRHAGIA IN FEMALES.

A report of the Academy of Medicine having erroneously ascribed to Dr. Gibert an opinion, that in the gonorrhœa of women, vaginal discharge *commonly* co-exists with the urethral. He has published the following extract from his Memoir to the Academy, to show his opinion to the contrary, and that the vaginal discharge or secretion from the vagina *itself* is more commonly *absent;* also that the discharge lining the vagina,

will be found frequently to arise from the neck of the uterus. In females, says the author, the seat of election of *blennorrhagia* is the meatus urinarius, as in the man; but in all cases where I have used the speculum, I have seen a *uterine discharge* accompanying that of the urethra, and continuing after the latter is cured, so that *the neck of the uterus may be considered the principal source of the blennorrhagic flux in woman.* Nevertheless some modern writers have designated the female clap by the term vaginite, or inflamed vagina; but in the *immense majority of cases, the vagina does not secrete the discharge,* and if it be sometimes red, this appearance is transient, and yields rapidly to repose and cleanliness. It is only in a few rare cases that we meet with a milky or purulent discharge, really furnished by the vagina; on the contrary, in every woman who has contracted a clap, there exists during the first two or three weeks, a characteristic suppuration, together with a discharge, originating in the *neck* of the uterus, which last, by its continuance after the cessation of the urethral symptoms, may be confounded with leucorrhœa.

Medical Times, Oct. 17, 1840, *p.* 34.

126.—CHLORIDE OF ZINC IN NECROSIS.

The difficulty of penetrating the hardened case of new bone when long formed, is too well known to require any comment; and it not unfrequently happens that any attempt to reach the sequestrum is either rendered abortive thereby, or occasions such a degree of disturbance to the whole shaft, as to produce more harm than good. Mr. Guthrie, to whom I allude, has availed himself of the peculiar properties of a remedial agent recently introduced, the chloride of zinc, which, attacking the animal tissue of the bone, destroys it, and thus causes the earthy matter to soften and become detached. The sequestrum is by this means exposed with little pain or disturbance of the part, and may be dealt with according to circumstances. To the success of this plan I can myself most willingly testify.

Mr. James's Retrospective Address; and Med. Chir. Review, July 1840, *p.* 48.

MIDWIFERY.

127.—INVESTIGATIONS REGARDING THE PLACENTA.

By Hugh Carmichael, Esq. (In a note by Dr. Power.)

The position which the after-birth occupies in the womb in the different stages of gestation, has lately been undergoing a very interesting, and we may say satisfactory, inquiry, at the Coombe Lying-in Hospital, Dublin, by Mr. Hugh Carmichael.

The opinion respecting the situation of the after-birth in the womb has heretofore, as is well known, been, that, with some few exceptions, inasmuch as its first formation takes place in the vicinity of the fundus, at the uterine extremities of the fallopian tubes, in that position it continued throughout gestation. Mr. H. Carmichael has shown, as well by reasoning on the matter as by demonstrative proof, that this opinion is erroneous, and that, although its position may at its formation be as above stated, yet, by the time labour is about to come on, it has so changed that position that it is then low down on the posterior wall of the womb, generally either to the right or left side, according as the fallopian tube lies through which the ovum entered the uterus.

The first of these points, which relates to its original formation at the fundus, Mr. C. does not think it necessary to dwell on; it is admitted generally. To the position of it when labour is near, and the changes in this respect it appears to be undergoing during gestation, his attention has been chiefly directed, and as it appears to us with complete success.

The mode adapted for this purpose consists in an examination of the secundines after their delivery, the membranes of which, he shows, bear such marks as will enable us to ascertain

where each part of them lay when within the womb, and thus assign to the placenta, which is always attached to them, its uterine position likewise.

Mr. H. Carmichael remarks, in his interesting essay, that it has been observed by several writers on midwifery, that the distance the placenta lies from the fundus or from the mouth of the womb may be ascertained by simply observing the secundines after their delivery. The child, it is known, is enveloped in the membranes within the uterus, in a shut bag, similar in formation to the peritoneum, or any other of the serous class; and in order to its birth, the head, or whatever part presents, must first perforate this bag where it corresponds to the mouth of the womb. The membranes, with the placenta attached, are afterwards delivered uninjured or broken elsewhere, and the distance the placenta is from the perforation at once demonstrates where its distance from the mouth of the womb was when within the latter.

Mr. Carmichael, however, has gone further in his examination of these parts than his predecessors. All former inquirers merely sought to learn from them the altitude of the placenta in the womb, and even this we may say none made the subject of conclusive inquiry, as is evident from the opinion of the present time being, that the fundus is its usual position at all stages of gestation. Our author, however, has shown that by inspecting them in the manner pointed out by him—first, that the placenta is, in ninety-six times out of the hundred, in the vicinity of the aperture made in them by the head previous to its birth; and next, that the longest part of the membranes give evidence of having lined the most distended or concave part of the womb; the shortest, one comparatively of a straight superficies.

The inference he obviously deduces from these facts are twofold. The one, that the fundus is not the situation of the placenta at the close of utero-gestation, but that it is somewhere near the os uteri; and the other, that somewhere is on the posterior surface.

Mr. Carmichael then goes into a very ingenious disquisition as to how the womb enlarges as the child grows. He contends that this cannot be in the way generally supposed; the fundus rising up and maintaining its position unaltered all through, because in that case, he says, the placenta, which is first formed

on that part of the womb, would continue there, and the inspection of the secundines, as above, would discover it implanted on them exactly opposite their aperture or opening. He then declares his opinion on this point to be, that to account for this apparent sinking of the placenta on the posterior part of the womb, the anterior wall of the organ must chiefly supply the increasing superficies, while the back part of the womb, and what was the fundus on the formation of the placenta, only increases in a proportion sufficient to accommodate the placenta. If the fact be that the placenta is found at the close of utero-gestation low in the womb, as Mr. C. states, this appears a very natural conclusion, because its first formation being at the uterine opening of the fallopian tubes, it would be difficult otherwise to account for the change of position; and some explanation of how this takes place may be derived from the mechanical effect produced on the front of the womb by the weight of the increasing child, pressing against that part of the organ, and thereby loosening out its texture, and which could not occur in the same way in any other part of it.

Mr. Carmichael then submits, that if this be the mode the womb enlarges, the contractions must take place in a corresponding retrograde direction; so that if uterine expansion goes on, on the anterior wall chiefly its diminution or expulsive efforts at labour must be there likewise; and on this supposition he explains several matters connected with the process of gestation and parturition, which, it must be admitted, were heretofore very unsatisfactorily accounted for.

Medical Gazette, Aug. 7, 1840, *p.* 752.

[Mr. Hugh Carmichael, writing on this subject, in a subsequent number of the *Medical Gazette,* says]

I believe it is a matter fully admitted, that the ovum first attaches itself to the uterus in the immediate neighbourhood of the fallopian tube it traversed; it is retained there, when it enters the womb, by the part of the decidua which covers these uterine apertures, and there the placenta is first formed.

The substance of my remarks, then, upon the subject in question, rests upon two points: the first, that at the period this attachment takes place the uterine aperture of the tubes, and consequently the newly-formed placenta, is at or near the fundus of the womb; and the second, that at the close of gesta-

tion, they are, and particularly the latter, low on the posterior wall. I have stated in my original paper that the membranes, when delivered, will be found to be so marked as to enable us to ascertain this second point, and that according to their testimony, I found it (the placenta) there to be situated, as above stated, in 96 or 97 times out of the 100.

Before, however, we proceed to examine the merits of this doctrine, I have to state, that it is now admitted the fundus is not the position of the after-birth, (I shall take leave to say—*at the close of gestation.*) It is found by examining the secundines, that its *(then?)* place on the membranes, relative to the aperture in them made by the escaping child, is somewhere in the vicinity of the mouth of the womb: there were but three exceptions to this in the hundred cases recorded in this table.

[He brings forward a table of Naegelé's, who asserts that in six hundred cases which he examined, the placenta was situated]

At the sides of the womb,	379	
Undeterminable,	180	
At the fundus,	7	
Anterior wall,	13	*only*
Over the os uteri,	11	
Calcareous deposits,	10	
	600	

This account shews the greater number capable of being diagnosed by the stethoscope to have been laterally to the right or left side, which, at p. 78, Naegelé denominates "the ordinary position of the placenta," and which, I submit, corresponds with the view I have taken of the subject. Naegelé says this position is in consequence of the vessels of the womb being greatest at the sides than elsewhere. I would, however, suggest as a reason for it, what I have already stated in my paper. The original formation of the placenta takes place at the orifice of the tube the ovum traversed, which is *then* at or near the fundus. At the full period of gestation, however, the tubes have sunk posteriorly and laterally about one-half on the uterine tumor, (Hunter and Cloquet's plates.) In this movement the attached placenta must of course participate, and thus it is that it is found there then. If that part of the womb be best sup-

plied with blood, the effect of this change will be the more complete, as it will bring the full-grown placenta where it will be best supplied with it.

Now I would contend for it, that there must be some reason why nature has in a measure excluded it from this position, and also that of the fundus (it was found by him, in the latter position, but *once* in the hundred;) and I would submit that this is in consequence of the expansion of the womb taking place in the greatest degree in these parts of it. Were the afterbirth here attached, it is evident that the growth of the two organs would not correspond; that of the womb would exceed that of the placenta, and disturbance of the function of the latter must be inevitable, with its consequences on the mother and child; but placed as it is, *laterally and posteriorly*, it is on a part which increases in a ratio that is adapted to the placenta only, while the increase of the anterior and fundal department is reserved for that of the child.

Medical Gazette, Oct. 2, 1840, *p.* 53.

[If Mr. Hugh Carmichael's views of the situation of the placenta be correct, our own views respecting the action of the ergot of rye as given at page 176 of our first number may be somewhat corroborated thereby; for the placenta by being situated low down in the uterus may be subjected to continued pressure by the *uninterrupted* action of the womb, from the effects of the ergot; and thus a double cause may exist for the stoppage of the circulation between the mother and child: for not only may the circulation be in a great measure impeded in the uterine parietes, and especially through the curling arteries of Hunter, by the *continued* contraction, but the pressure of the head downwards and backwards in the first stages of labour may very probably produce complete pressure on the placenta, and also upon the vessels of the cord as they enter and proceed from the placenta. And if these views be correct, another circumstance would also be partly accounted for. He supposes that the placenta is generally situated low down in the uterus and generally on the posterior part: so that when the child's head descends downwards and backwards from the brim of the pelvis into the hollow of the sacrum, it will necessarily compress the placenta against the sacrum; but when the head assumes a different direction, viz., forwards and downwards, which it does in the last

stage of labour, this compression against a hard body will not be so liable to occur. And we must confess that this seems very plausible: for on recalling to our recollection those cases of still born children which have occurred after the violent action of ergot, we must acknowledge, that the child has generally been high up in the pelvis when the medicine was given: and we think we are safe in asserting that ergot will prove more dangerous when the head of the child has yet to descend *towards* and upon the sacrum, than when it has already passed that place and made the turn forwards *from* the sacrum. So that we may offer this simple but important suggestion to the profession, never to give secale (unless quite unavoidable) when the child's head has yet to descend into the pelvis and especially when the os uteri is turned a good deal backwards. Even if the os uteri is quite dilated and the head still high up in the pelvis we should be afraid of the ergot, not only from the circumstances related in our first number, but from the liability to pressure upon the cord and after-birth, against the sacrum or some other parts of the pelvis: for, if the placenta be situated posteriorly and *laterally* in the womb, which it often is, the pressure would be against the *sides* of the pelvis, and not so much against the sacrum itself.

Many objections have been raised against the views of Mr. Carmichael in the *Dublin Journal of Medical Science* for March 1840, to which we refer our readers. Mr. C. answers these objections in the same journal for July 1840: and as this important opinion has not yet been settled to the satisfaction of all parties, we refer the reader to the 14th vol. of the journal above named, and the numbers for July 1839, and November 1839, and we also think it right to lay before the reader the following opinions of Dr. Doherty, who, we must confess, advances some weighty arguments to support his own views in opposition to those of Mr. Carmichael. Referring to the above positions of Mr. C., he says:]

Against these positions I argued as follows:—If it be a fact, that the growth of the fundus is so great that the placenta could not maintain with it an equality of development, hemorrhage must, in every instance, result, when the afterbirth is found at the period of labour either wholly or in part within the upper segment of the organ; and if this be the case with the fundus, it must be much more so with the anterior wall,

supposing its expansion to take place so extensively as described. It appeared to me, therefore, that if I instanced cases which exemplified the placenta, first high up on the posterior wall, secondly attached to the fundus, and thirdly attached anteriorly, —cases in which no untoward occurrence happened to either mother or child,—I should hence demonstrate his theory to be built on an unstable foundation. This I accordingly did. At the same time, I pointed out the circumstances which, in my mind influenced the seat of the placenta. I observed that the height at which the ovum attaches itself, must depend, in a great degree, on the decidua reflexa; if that membrane be rapid in its growth, or easily prolonged, the ovum of course arrives at a lower part of the uterus before it forms its union with the maternal structures, than where the reflexa is of opposite qualities—a fact which is proved by the inspection of abortions, the cord obviously springing in different specimens at a higher or lower elevation. The evidence thus obtainable, too, is quite at variance with Mr. Carmichael's statement, that the ovum invariably forms its first adhesion on the fundus, or close to it. I also noticed the possibility that the wall on which the placenta forms, depends, firstly, on the position of the uterus at the time, and secondly, on the quantity of the fluid its cavity then contains. In the usual condition of the parts, the uterus placed obliquely, the fundus leaning forward, the hydroperione must float the ovum, contained in the reflexa in contact with the upper portion of the posterior wall; and accordingly there the ovum in a large proportion of instances attaches itself. But if the quantity of decidual fluid be not sufficient to support the reflexa in the manner described, its gravity carries it towards the anterior wall, and there the placenta is formed. It is probable also, that if the uterus presents a less degree of obliquity, or leans to one or either side, the reflexa will be elevated by the hydroperione to that which is uppermost, and there the union will be accomplished.

With respect to the fallopian tubes, I quoted a passage from Dewees, which, I repeat, will be found at page 88 of his treatise, in which he stated that the enlargement of the uterus is confined almost entirely to the *posterior* segment, and that at the termination of pregnancy the tubes are situated *anteriorly*. This passage Mr. Carmichael declares he has not been able to find; the fact he denies. But if he will only pass a line

around the gravid uterus at the full time, where the tubes penetrate its substance, he will find three-fifths situated posteriorly to them, and two-fifths anteriorly. This observation I had from Dr. Montgomery, whose accuracy on such a subject no man will question; its correctness I have verified by reference to casts and preparations in his museum.

I found that out of 100 cases, in 25 the placenta was attached to the anterior wall; in 10, to the left side, extending to the anterior wall; in 8, to the right side, also extending to the anterior wall; in 54 it occupied the posterior segment of the uterus, either in a central position, or approximating, as it usually did, to one or other sides; and that of these posterior placentas, only 27 came "within two inches of the lowest part of the cyst."

Let him only grant me one case, as he has done in appealing to M. Naegelé, and I say his theory is untenable; for, in the first place, it is impossible, with his mode of expansion, that the placenta could ever adhere to that particular part; it must in every instance be turned over to the back of the uterus; and, secondly, according to him, such a case, if it could occur, should be attended with hæmorrhage, as must also those in which the mass adhered to the fundus.

But I insist that, according to the mode of growth described, the placenta should in every case be found, not anteriorly, nor even laterally, but occupying the posterior wall alone. If it be first attached to the fundus, and if its position be altered by the increase of the anterior wall, it should be in every instance (to use the author's own words) "turned over to the back of the womb;" and every single case in which it is otherwise situated militates against the doctrine advanced, particulary those in which it assumes and maintains throughout gestation an anterior position. As Mr. Carmichael never witnessed a case of this sort uncombined with some unnatural circumstance, I shall mention one, besides those I have already referred to in my papers, which it is in his power to examine for himself. A few weeks since I removed the uterus from the body of a young woman, who died after a few hours' illness, in about the seventh month of pregnancy. The preparation I this day examined with Dr. Wm. O'B. Adams, the Professor of Midwifery to the Apothecaries' Hall, in whose museum it now is. We found the placenta still adhering to the centre of the anterior wall, to

which the bladder (a sufficiently distinctive mark) is still appended. Why, I would ask, was not this placenta carried up, if this extraordinary and novel extension of the wall, on which it was implanted, was going on ?

Medical Gazette, Nov. 27, 1840, *p.* 351—358.

128.—ON THE FUNCTIONS OF THE OVARIES IN MENSTRUATION.

By Dr. Robert Lee.

[It will be seen by the following observations of Dr. Robert Lee, that Mr. Cruikshank and himself anticipated M. Gendrin in his recent theory of menstruation as given at page 189, of this volume; and there is no doubt that the following facts will serve in some measure to enlighten us respecting this interesting process.]

There are certain facts which seem to prove that it is not to the influence of the uterus, but to the ovaria that we are to attribute all the changes which take place in the female pelvis, in the mammæ and uterine system at the period of puberty; and it seems not improbable from the following facts, that it is also to certain changes in the Graafian vesicles at the time of menstruation that all the phenomena of that singular process are to be referred.

On the 11th of March, 1831, we examined the body of a young woman who died during menstruation from inflammation of the median basilic vein. The left ovarium was larger than the right, and at one point a small circular opening, with thin irregular edges, was observed in the peritoneal coat, which led to a cavity of no great depth in the ovarium. Around the opening, to an extent of three or four lines, the surface of the ovarium was of a bright red colour, and considerably elevated above the surrounding part of the peritoneal coat. On cutting into the ovarium, its substance around the opening and depression was vascular, and several Graafian vesicles of different sizes were observed. The right ovarium was in the ordinary state. Both fallopian tubes were intensely red and swollen,

and their cavities were filled with menstrual fluid. The lining membrane of the uterus was coated with the same fluid, and the were soft and vascular. The size of the uterus was not parietes increased.

In the autumn of the same year a woman under twenty years of age died suddenly from acute inflammation of the lungs while menstruating. The body was examined by Mr. John Prout, and the uterine organs were brought to us for inspection. A red soft elevated portion of the right ovarium was also here observed, and at one part the peritoneal coat to a small extent had been removed. The edges of the opening were extremely thin and irregular, and in the substance of the ovarium under the opening was an enlarged Graafian vesicle filled with transparent fluid. Numerous small blood-vessels were seen running along the peritoneal coat of the ovary to the opening. When the substance of the ovarium was laid open, several vesicles of various sizes, and at different depths, were found imbedded in it. The left ovarium presented a natural appearance. The free extremities of the fallopian tubes were gorged with blood. Their cavities were filled with a red-coloured fluid. The uterus was not enlarged, but the parietes were gorged with blood, and the lining membrane of the fundus was coated with menstrual fluid. A small coagulum of blood likewise adhered to the upper part of the uterus.

On the 2d of July, 1832, Sir Astley Cooper, to whom the writer had mentioned these cases, sent him the ovarium of a woman who died from cholera while menstruating. The ovarium was much larger than natural, and at one point there was a small irregular aperture in its peritoneal coat through which a portion of a slender coagulum of blood was suspended. On cutting into the substance of the ovarium, it was found to be occupied by three small cavities or cysts, one of which was filled with a clear ropy fluid, another with semi-fluid blood, and the third, which communicated with the opening in the peritoneal coat of the ovarium, with a firm coagulum.

On the 18th of November, 1832, the uterine organs were removed by Messrs. Girdwood and Webster from the body of a young woman who had died suddenly the preceding day when the catamenia were flowing. Both ovaria were remarkably large, and both fallopian tubes were red and turgid. The peritoneal coat of the left ovarium was perforated at that extremity

which was nearest to the uterus by a circular opening, around which aperture for several lines the surface of the ovarium was elevated and of a bright scarlet colour, like extravasated injection. The margin of this opening was thin and smooth, and did not appear to have been produced by laceration. Its centre was slightly depressed below the level of the edges, but there was scarcely the appearance of a cavity beneath. The right ovarium was much larger than the left; and, when cut into, a cavity or cyst was found which was filled with half-coagulated blood. The peritoneal coat of this ovarium was entire.

"The uterus was large, and when cut into, the parietes appeared to contain an unusual quantity of blood. The inner membrane was of a bright red colour, and coated with a thin layer of catamenial fluid. Both fallopian tubes were red and turgid, and the interior of the left was filled with menstrual fluid, but nothing in the form of a Graafian vesicle could be detected in the tube. The appearances now described have been accurately represented in a drawing made from the parts within two hours after they came into the author's possession.

In a paper by Mr. Cruikshank, published in 1797, there is an account of similar appearances having been observed by him in a young woman who had died at the monthly period. 'I have also,' he says, 'in my possession the uterus and ovaria of a young woman who died with the menses upon her. The external membranes of the ovary were burst at one place, from whence I suspect an ovum escaped, descended through the tube to the uterus, and was washed off by the menstrual blood.'" (Cyc. of Pract. Med.—art. Ovaria.)

The following case was recently communicated to the Medico-Chirurgical Society:

"On the 14th of January, 1837, a woman, thirty-seven years of age, who had long suffered from hysteria, died suddenly in St. George's Hospital during menstruation. No morbid appearance was found to account for her death. A small circular aperture was observed in the peritoneum of the left ovarium, near the point where the corpus fimbriatum is fixed to the extremity of the ovarium. This opening communicated with a cavity in the substance of the ovarium, which was surrounded with a soft yellow substance of an oval shape."—(Med. Chir. Transactions, vol. xxii. p. 335.)

British and Foreign Medical Review, Oct. 1840, *p.* 592.

In Dr. Robert Hooper's large work on the morbid anatomy of the uterus, there is an engraving of the uterus, fallopian tubes, and ovaries, taken from a female who died during menstruation, showing a similar condition, and published several years before Dr. Robert Lee's paper in the "Cyclopedia of Practical Medicine." In 1821 was published an octavo volume, by Dr. John Power, containing "a new view of the nature, causes, &c. of the periodical discharge of the human female," which, although mixed with some absurdities, promulgated precisely the same theory, and even went so far as to consider menstruation to be "disappointed pregnancy"; that the same changes took place precisely in the ovaries as described by Cruikshank during each menstrual period; that great vascular excitement and congestion took place, with the formation of an actual ovum or Graafian vesicle; which, being denied, the vivifying influence of the male passed away useless, along with the menstrual fluid, which was the *resolution* of the vascular action thus rendered useless, or, as he quaintly terms it, "disappointed." Every farmer's wife knows a similar fact in hens, which constantly lay eggs ("pullet's eggs" as they are called,) without the access of the male. These eggs are good for culinary purposes, whilst fresh, but will not keep, nor will they ever be hatched into chickens, however long a hen may sit over them, because they "want the tread," as the phrase is.

Lancet, Oct. 17, 1840, *p.* 129.

129.—CASE OF COMPLETE DETACHMENT OF THE OS UTERI DURING LABOUR.

By Hugh Carmichael, Esq.

[In this extaordinary case the os uteri remained obstinately closed for a considerable period, and notwithstanding the regular action of the womb aided by the gentle use of ergot, it remained but little dilated to the last. Mr. C. then proceeds to say,]

The os did not yield, but the head was propelled fully into the pelvis, pushing the cervix before it. In the course of the evening of the second day the patient's condition grew worse, she became delirious, the pulse quick and irregular; and in a word, she must have quickly sunk if interference had not been

resorted to. To apply the forceps, I can only say, the circumstances of the case were such as decidedly to preclude it; there was nothing therefore but the crotchet, and with the hope, though possibly a faint one, of being able so to break up and dismember the child, as to transmit it through the os, the perforator was resorted to, and the cranium evacuated of its contents; the crotchet was then introduced, and traction of a very gentle nature made on one of the parietal bones, for the purpose, if possible, of detaching it, in order to my intention as above stated. During this, however, a strong contraction of the uterus succeeded, when the head was at once expelled, carrying before it the os and a part of the cervix of the womb, the diameter of which measured about three inches and a half, which preparation is in the museum of the Coombe. The placenta came away in the usual manner, there was, however, considerable hemorrhage, and such difficulty in getting the womb to contract, that the cold affusion became necessary. Two hours after the delivery I became much alarmed for my patient; jactitation, restlessness, difficulty of breathing, &c. I gave her a full anodyne, and having procured tranquillity, and given all the necessary instructions to a competent person as to the state of the uterus, which was padded, and other parts to be attended to, left her for the night. On my visit the next morning—and I confess to you it was not without strong apprehensions that I should have found her either dead or dying—to my surprise, she was sitting up in bed eating her breakfast, expressing how comfortable her condition was compared with that of the preceding day.

Dublin Journal of Med. Science; and American Journal of Med. Science, May 1840, *p.* 236.

130.—TREATMENT OF MISCARRIAGE.

By J. S. Streeter, Esq.

Mr. Streeter doubts the propriety of employing opium in the earlier weeks and months of pregnancy—he seldom has recourse to it where abortion is threatened before the third month of pregnancy is completed.

"When however in addition to uterine pain these early cases are attended with any hæmorrhage, I lay it down as a canon

of treatment that the practitioner ought not to employ opium, or any drug that has the property of suspending or lessening uterine contraction. The results of enquiries show that miscarriage in almost all instances arises from causes over which, when its *essential symptoms* have set in, the accoucheur has lost all control. Fœtal or uterine disease or imperfection has accomplished its work of destruction, and the blighted embryonic thing must now be cast out from the womb. If the ovum is not so blighted, rest in the recumbent or horizontal position, mental quietude, the abstaining from stimulating articles of food, the clearing out of the bowels by a simple enema or mild purgative, the administration of common salines, such as the citrate of potass with small doses of digitalis and hyoscyamus, will suffice to allay the symptoms. When however the ovum is blighted, it must necessarily be thrown off by miscarriage, and the suspending the uterine pains by the administration of opium only retards, and in too many instances, disarranges that process altogether. If therefore hæmorrhage continues or recurs after a few hours' trial of the above means, it seems to me that it then becomes a duty to ascertain by vaginal examination whether the os uteri has begun to dilate or not. If dilatation of this part has commenced, or if the hæmorrhage steadily increases, even before it becomes profuse or tells upon the constitution, the ergot of rye should be freely and fearlessly employed in larger or smaller doses, and given at longer or shorter intervals according to the effects which it produces. The accoucheur should from time to time as gently as possible ascertain the extent of dilatation of the os uteri, remove all clots from the vagina, and dislodge the ovum if, as sometimes happens, it is merely adhering to the os uteri and keeping up hæmorrhage by the irritation which it occasions there."

Keeping the room of a moderate temperature—the horizontal posture—cold drinks—light food—stimuli if syncope impends—and, should the symptoms become alarming, pressure on the abdominal aorta and plugging of the vagina. Permanent contraction of the uterus can often be brought on and may nearly always be sustained by regularly-repeated doses of ergot of rye, and the use of cold and astringent injections into the rectum. When all other means fail, the sole remaining resource is transfusion.

Medico-Chirurgical Review, July 1840, *p.* 182.

131.—DIAGNOSIS OF UTERO PLACENTAL HEMORRHAGE.

By M. Gendrin.

In all doubtful but important cases, it is necessary to make a thorough examination, and not to hesitate to introduce a part or the whole of the hand if requisite. Utero placental hemorrhage may be distinguished from menstruation during pregnancy, by the presence of pain in the former, and its absence in the latter; by the periodicity and by the quantity of discharge. Sometimes there is a varicose state of the vagina, which would be liable to mislead those who do not examine the state of the organs themselves.

The diagnosis of placenta prævia, M. Gendrin says, is not so easy by the touch as books would make us believe, and we agree with him. In the first stages of labour, before the os uteri is much open, the kind of hemorrhage has been our guide to suspicion. Clots entangled at the os uteri prevent a due recognition of what is behind them; and mere curiosity must not have place in a case where the removal of a clot may be followed by a fatal gush; still, the absence of a resistant sensation which the fœtal head affords, even through the uterine walls, coupled with the kind of hemorrhage, is generally deficient in the last weeks of pregnancy, to leave few doubts as to the case. When, during early labour, the os uteri is open, the unequal spongy substance of the placenta is readily, we think, known; but M. Gendrin adds a very valuable sign of diagnosis, if it be well made out, viz., that there will be felt a pulsation at the os uteri, not synchronous with that of the mother's pulse, but with the quick measure of the fœtal heart. We have never as yet tried this: indeed in placental cases, he who takes the earliest period in which it is possible to deliver, will be the safest practitioner, and we rarely could venture to do otherwise. A second mark is the impossibility of producing *ballottement*, which M. Gendrin found in three examples: he however, does not assign this as positive. We know of another instance corroborative of this diagnostic symptom. An eminent practitioner, now dead, being consulted in a case of doubtful pregnancy, detected every sign but that known under the name of "ballottement": though, therefore, he could be sure of an enlarged uterus, he could not say positively whether

such enlargement was owing to the presence of a fœtus: he gave it as his opinion, that if the woman were pregnant, the placenta was interposed between the cervix uteri and the head of the child. This sagacious surmise eventually proved quite true. Before, however, the ballottement be taken as a test of placenta prævia, and before the practitioner should indulge himself or the friends of his patient, in the gloomy anticipations attendant on such examples, he should be aware that this bounding movement given to the fœtal body floating in liquid, can only be produced with certainty between the five and a half and seven and a half months of gestation. Even then there must also be that adjustment between the developed weight of the fœtus and the quantity of the liquor amnii, that the former shall be so nearly of the same specific gravity as the latter, as to be readily made to ascend and descend. If this proportion be not exact, and the fœtus be too heavy, it cannot be moved; and if too light, it will not descend: in either case the ballottement is imperfect or null. The stethoscope gives, we think, in placenta cases, a very doubtful diagnosis. In Dr. West's very neat translation of the younger Naegele's work on Obstetric Auscultation, it is asserted that in placenta prævia the murmur is heard loudest over the pubes. This sign can but be considered as an adjunct to others: it is very deceptive by itself.

The history of the case is, however, the most valuable diagnostic element. "Flooding, without pain, at decreasing intervals prior to labour, and flooding coincident with uterine pain, in labour," will be sufficient grounds for the strongest suspicion.

British and Foreign Medical Review, July, 1840, *p.* 92.

132.—CASE OF EXTIRPATION OF THE UTERUS.

By M. Luytgaerens, of Zele.

[In which a large fleshy polypus was found to be attached to the fundus of the uterus, and which by its weight had caused a complete prolapsus of that organ. It was about the size of the fist. It was believed that the uterus itself was reversed. Hectic fever had already come on, and the patient was evidently sinking under the disease. The tumor was seized with the

double forceps of Museux; the whole mass was then drawn beyond the external organs of generation, and being held fixed in this position, was extirpated by means of a strong pair of curved scissors. The woman did well.]

Edinburgh Medical and Surg. Journal, July 1840, *p.* 261.

133.—PREMATURE LABOUR ARTIFICIALLY INDUCED IN A DWARF. By M. Paul Dubois.

[M. Dubois had attended this patient in a former labour, and had delivered with the greatest difficulty, there being only a space of three inches from the pubes to the sacrum. When she became pregnant a second time, he attempted at about the end of eight months, to bring on labour, in the following way:]

At half-past nine in the morning, a common speculum being passed into the vagina, a piece of prepared sponge, about an inch and a half long, and cone-shaped, with a base from six to eight lines in diameter, was introduced by means of a long pair of forceps into the os uteri. It was fixed in its place by a second larger piece, and threads were adapted to both, so that they might be drawn out as soon as it was necessary. The patient was scarcely placed in her bed again before she felt some slight pains; forty grains of ergot of rye were almost directly after administered in doses of five grains every ten minutes; and during its administration the pains became gradually stronger and longer, and from eleven to twelve o'clock followed each other very rapidly and were well sustained.

British and Foreign Medical Review, July 1840, *p.* 273.

[The pains however subsided and again commenced. The sponge was withdrawn, the membranes ruptured, and the labour afterwards advanced properly, and she was safely delivered.]

134.—ON INCISION OF THE OS UTERI IN CASES OF INCARCERATED PLACENTA.

By R. F. Power, Esq., Surgeon to the Coombe Lying-In Hospital.

It sometimes happens that the placenta is separated from the uterine parietes, but is confined within its cavity, in conse-

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quence of the os being *firmly and rigidly contracted.* This state is what is termed *incarcerated* placenta, and differs from the ordinary forms of irregular contraction of the uterus, in the contraction being more limited to the os and cervix.

The result of these cases is most generally fatal, the patient dying from the effects of a typhoid fever, probably excited by the putrescent mass retained in the system. When a portion of the placenta only is retained, a purulent discharge consequent upon inflammation is sometimes secreted, by the living membrane of the uterus, and by which the particles of the intruding body are carried off. It is also recorded that the placenta has been altogether removed by absorption; such cases are however extremely rare, and are essentially different from those now under consideration, in which the general termination is death.

I beg to be understood as referring only to instances in which the rigid contraction is limited to the *os,* and perhaps a portion of the cervix, a state which is readily discernible, and two examples of which, as before mentioned, came under my own observation. In such, *after all the ordinary means have been tried in vain,* and death seems certain, as a last resource, before the powers of life were too far exhausted, would this operation be admissible ?

Mr. Power gives the following directions for the performance of this operation. The patient should be placed on her left side, close to the edge of the bed, as in the ordinary obstetric position, the fore-finger of the left hand should then be carried to that part of the os or cervix intended to be cut, and a probe-pointed knife or bistoury conveyed cautiously along the finger in the vagina to the point mentioned, at which the os or cervix may be divided. This is done by gently insinuating the point of the instrument within the os, and pressing its cutting edge against the rim on each side, in the direction in which it is intended to be incised, the parts will give way readily before it; and then cautiously giving the blade a withdrawing motion, the openings may be enlarged as much as may be deemed advisable. The bladder should be previously emptied, and if the incision be brought forwards great care should be taken to avoid its neck. The liquor amnii will escape after the first incision, and if the uterus act, the case may then be left to nature.

Dublin Journal of Med. Science, Sept. 1839, *and American Journal of Med. Science, May* 1840, *p.* 237.

ANATOMY AND PHYSIOLOGY.

135.—ON THE STRUCTURE OF THE HUMAN PLACENTA, AND ITS CONNECTION WITH THE UTERUS.

By W. Bloxam, Esq. M.R.C.S., Surgeon to Queen Adelaide's Lying-In Hospital, and Lecturer on Midwifery.

[If the placenta be examined soon after its separation from the uterine surface, very minute vessels are perceived, varying from six to eight lines in length. When the uterus and placenta are examined together, these vessels are seen to pass from the former to the latter. They are known as the short curling arteries of Hunter, and are for the purpose of entering the placenta for the nourishment of the child.

It seems that no injection has yet been satisfactorily seen to reach the vessels of the cord from these uterine arteries, and it may therefore be supposed that no actual communication exists, but "on observing the distribution of the umbilical vein at its extremities, it is found that its divisions are excessively minute, and in contact with the branches of the uterine arteries, ramifying also in the spongy tissue of the placenta." Mr. Bloxam makes other interesting observations on this subject, and sums up his opinions by the following conclusions.]

Firstly. That the blood enters the placenta through the short curling arteries of Hunter; and that although their size is insignificant compared with the venous system of the uterus, yet their relative number being greater, a full supply of blood is insured to the organ; whilst by the smallness of their calibre, they prevent the maternal circulation from expending its full momentum on the system of the child, under the accidental shocks physical and mental to which the mother is daily liable.

Secondly. That these vessels ramify on the spongy tissue of the placenta, and are there in apposition with the extremities of the umbilical veins.

Thirdly. That it is highly probable, that some of the properties of the maternal blood pass into the circulation of the fœtus by this means, and having fulfilled its functions in the fœtal œconomy, the residue is returned to the placenta by the umbilical artery.

Fourthly. That from the free terminations of the umbilical arteries it transudes into the interstitial structure of the placenta; which, it may be remembered, is continuous with the semilunar apertures on its uterine surface.

Fifthly. That these apertures are applied to the openings on the internal surface of the uterus, and furnish the channel by which the blood, or its principles, are restored to the system of the mother.

As far as I am aware, there is no evidence of direct communication between the fœtus and its parent, furnished by the researches of comparative anatomists. Mercury, however, has been found in the vessels of the fœtus after having been injected from the uterus. Here, perhaps, the weight of the substance employed may have conduced to the result.

[He concludes his paper with the following remarks:]

With regard to the precise process which the blood undergoes in its accommodation to the necessities of the fœtus, we have no data to guide us; it may be a secretory process, or merely an exercise of those peculiar properties of the vascular system known as endosmose and exosmose.

I cannot conclude this paper without a brief observation on the mechanical arrangement of the uterine orifices for the prevention of hæmorrhage.

In regarding the immense size of the apertures of the venous sinuses, one feels a degree of astonishment that hæmorrhage is not more frequent, and more fatal; but when it is remembered that the essential property of the uterine fibre, at the full term of gestation, is that of contractility, and that by the exercise of this property the orifices of the deeper seated sinuses must be closed, by the more internal layer of muscular fibres, inasmuch as these apertures are not placed on the same meridian, our surprise ceases.

It is probable, that independently of this mechanical arrangement, the flow of blood from the more superficial openings may be arrested by the formation of coagula, a process for which the flocculent structure of the decidua seems highly favourable.

Medico-Chirurgical Transactions, vol. 23, *second series vol.* 5, *p.* 224—236.

[The following article by Dr. Knox also refers to this subject.]

136—ON THE PLACENTAL TUFTS DESCRIBED BY WEBER.

By Dr. Knox, Edinburgh.

[This paper of Dr. Knox is confirmatory of the views of Weber respecting some parts of the anatomy of the uterus and placenta. He had long made up his mind]

First, that minute vessels containing coloured blood do really at all times pass from the uterus to the placenta, or *vice versa*, but that these vessels had never been fairly traced to their origins; and secondly, that the notion entertained by many that the uterine veins actually enter the substance of the placenta, or at all events reach its surface, together with that other idea that they terminate or commence by open mouths on the inner surface of the uterus, and that they there take up the blood poured into some intermediate cavities, or forced into them by the placenta through the placento-uterine decidua, was a statement at variance with every thing he had seen of these textures, and with all that he believed to be sound in anatomy and physiology.

[Dr. Knox proceeds further on to state:]

The first opportunity I had afforded me of examining the impregnated uterus, with the placenta adhering and undisturbed, was not a favourable one; but it satisfied me of this, that minute vessels of some kind or other do pass from the placenta to the uterus, and that the mode of the commencement of the uterine veins or sinuses on that surface of the uterus to which the placenta adheres had not been fairly described.

[Dr. John Reid furnished Dr. Knox with a large portion of the uterus with the placenta adhering, of a person who had

died of an acute disease, and undelivered; and on this case he makes the following interesting remarks:]

The whole of the structures to be examined were placed, when I first saw them, under clear spirits, and several sections having been made already through and through all the textures, quite into the cavity of the uterus, the examination was begun upon the margin of one of these sections.

On carefully pushing away the placentary mass from the uterus, several textures came into view: to take these in the order they were first looked at I shall commence with the surface of the placenta; I mean, of course, that surface which adheres *mediately* to the uterus. In the structure of the placenta adjoining this surface I could observe nothing more than what I had uniformly previously noticed, viz. minute vessels dividing and subdividing until they were just perceptible under the single lens I used. That these were arteries and veins there could be no doubt, since any separate bundle might be traced backwards to the larger vessels from which they came. In respect to any placental cells or cavities, or large placental sinuses, or decidual spaces, or placental spaces, I may as well say at once that no such structures were ever seen by me, and that I question, as I always did, the existence of such cavities or spaces.

Having traced certain minute branches of these placenta vessels to that surface of the membrane interposed between the placenta and uterus (usually called decidua, but obscure in its real nature,) the union of this membrane, to the surface of the placenta was found to be comparatively firm, whilst its uterine surface adhered so laxly to the uterus, that it might be pushed from it to a considerable distance without destroying the anatomy of the intermediate textures or organs, owing to their natural elasticity. Being fully convinced, as I had been for many years, that to unravel the anatomy of these textures was to discover probably the whole secret of the mode of connection between the human fœtus and its parent, I dissected and observed these intermediate textures with the greatest care. To state in some sort of order what occurred at this point of the inquiry, I shall commence by observing that the minute vessels I had seen in the substance of the placenta passed almost directly through the interposed membrane or decidua in numerous bundles, being

bound at the same time to the edges of the apertures, through which they passed by a delicate but firm membrane derived from that surface of the decidua which faces the placenta itself. Having passed through it, some of these vessels were observed still to contain a dark coloured fluid, which I naturally thought must be blood. So soon as these bundles of vessels had passed fairly through the decidua, they proceeded towards the inner surface of the uterus, enclosed, as it appeared to me, in funnel-shaped tubes, formed of a membrane connected as well with the inner surface of the uterus as with the uterine surface of the decidua. This membrane resembled a serous membrane, but is probably merely a cellular tissue condensed; extremely delicate, semi-transparent, and not unlike the arachnoid. Many other funnel-shaped portions or tubes had already been torn, so as to expose the placental tufts of vessels, and I tore through one or two of these tubes so as to be sure that they partially enclosed the tufts. It now became evident that the placental tufts did not terminate in these funnel-shaped tubes, but proceeding onwards adhered apparently by some means or other to the surface of the uterus itself: it was moreover now evident, that, to ascertain the mode of adhesion of the tufts to the uterus, was the desideratum. Tracing therefore, with every possible care, a bundle or tuft of vessels quite up to the surface of the uterus, it was found suddenly to disappear, plunging into an orifice leading directly into one of the venous sinuses of the uterus. In this sinus or cavity the placental tufts floated, extending a considerable way into the sinus, and having distinct terminations, that is, not uniting or anastomosing, so far as could be observed, with any other system of vessels. I now reversed the dissection: a uterine sinus was laid open more on that aspect which faced the substance of the uterus: it now seemed to me that the orifices by which the placental tufts had penetrated into the uterine sinuses were in no sense either the commencement or termination of the uterine veins, but merely lateral openings in the walls of the sinus; and that the peculiar pen-shaped orifices, described by many anatomists as seen on that surface of the impregnated uterus from which the placenta had been detached, and which had been declared to be the commencement of the uterine veins, shut up by the decidua so long as it is present, were appearances occasioned merely by an incautious dissection—a tearing away, in fact, of the placental

tufts of the membrane which connects the tufts to the orifices themselves, and of a portion of the delicate inner wall of the sinus itself.

I now observed that the placental tufts, on entering the sinuses by the orifices I have just described, received a covering from the inner membrane of the sinus, reflected upon the tuft precisely around the orifice. Neither the time nor light permitted my observing whether these tufts were altogether loose within the sinuses, or had adhering points connected with the wall of the sinus; and, in respect to one of the tufts, it did appear to me to anastomose with another tuft which had entered by a separate orifice. The tufts themselves, in so far as I could make out without the aid of the microscope, seemed composed of longitudinal striæ, as if the vessels lay longitudinally to each other, and terminated by rounded extremities.

Medical Gazette, Oct. 30, 1840, *p.* 209.

[These views are confirmed by Weber, as given in Muller's Physiology, Part I., p. 249, under the head of "Absorption by Organic Attraction."

As our columns will not admit of a full account of the following articles, we can only just refer the reader to them, recommending him to refer to the original articles.]

137.—ON THE TORULA CEREVISIÆ, OR YEAST PLANT.

[The microscope enables us to perceive that yeast consists principally of a number of minute disconnected vesicles. These possess a dormant vitality for almost any length of time. When placed in a saccharine solution, they commence vegetating actively, provided the temperature be sufficiently high.]

If a fluid in a state of fermentation be examined at short intervals, it is observed that each vesicle puts forth one or more little prolongations or buds, which in time become new vesicles like their parents; these again perform the same process, so that within a few hours the single vesicles develope themselves into groups of four, five, or six. This is not the only way, however, in which they multiply: sometimes the vesicles are

observed to burst, and to emit their contents; and new individuals originate from the germs thus liberated.

All fungi appear to have, in a greater or less degree, the power of hastening the decomposition of the organic substances on which they grow, for the purpose, it would seem, of thus procuring for themselves the supply of carbon which other plants derive from the atmosphere. The common *mould*, for example, destroys the palatability of sweet preserves; and the *dry-rot* causes the decay of the timber it infests. Like the rest of its tribe, the simple but important plant we have just described (which has received the appellation of *torula cerevisiæ)* decomposes the organic matter in which it developes itself; and it carries a step further the process which the conversion of the barley into malt by incipient germination had already commenced. This had changed the fecula of the seed into sugar, and an equivalent of carbon was thus liberated. Another equivalent is now abstracted for the use of the fungus, and the sugar is converted into alcohol.

In placing a mass of yeast into a fermentable solution, therefore, we sow the germs of myriads of fungi, by the development of which that change is effected in the fluid which it is our object to produce.

British and Foreign Medical Review, April 1840, *p.* 579.

138—STRUCTURE OF THE TEETH.

By A. Nasmyth, Esq.

At the meeting of the British Association, held at Birmingham, on the 26th of August, 1839, a valuable paper was read by Mr. Nasmyth, on the structure of the pulp.

According to Mr. Nasmyth, the internal structure of the pulp generally presents a remarkable number of minute cells in a vesicular form, which constitute the principal portion of its bulk. These vesicles vary in size, from the smallest perceptible microscopic appearance, probably the one-ten thousandth part of an inch in diameter to one eighth of an inch, and are evidently disposed in different layers throughout the body of the pulp. When thin layers of macerated pulp are examined, they present an irregular reticular appearance, and are found

to be interspersed with granules. The parenchyma is traversed by vessels, of which the direction is generally vertical. Mr. Nasmyth has frequently been struck with the rapidity with which the pulp diminishes in volume, and with the extent of this diminution. Sometimes, indeed, it would appear, in a short space of time, to be almost annihilated; and this seems to take place more decidedly when the tooth has been in a healthy state, and more so in adult than in temporary teeth. This shrinking or almost total disappearance may be accounted for by a peculiar collapse or change in the congeries of cells of which the pulp is made up. With respect to their contents, these cells must evidently be filled with either air or fluid; but they are so extremely minute that Mr. Nasmyth has not yet been able to ascertain which.

When the pulp in a recent state is deprived of its covering of ivory, there may be observed on its surface innumerable detached cells, with central points. These cells form frequently a regular and complete coating, studded with points, on the surface of the pulp; and these points are placed at intervals corresponding in extent to those between the fibres of the perfectly formed tooth.

A comparison between the superincumbent perfect ivory and the formative surface of the pulp beneath, is always easy, because portions of the former, at an early stage, at any rate, remain adherent to the latter, and fragments of the dental bone are found strewn over it; more especially in human teeth.

Against my theory, said Mr. Nasmyth, that the dental substance is the ossified portion of the pulp, the facility with which the one is separated from the other has been adduced, and he allowed the force of this objection; but, he observed, it is at any rate weakened by the circumstance that a portion of the pulp actually remains attached to the dental substance, and by the fact, that in half ossified ribs, for instance, the cartilage can be easily separated from the ossified portion, and it must be remembered that in the tooth the separation must be easy, in proportion to the difference between the consistence of the pulp and the ivory.

Medical Gazette, Jan. 3, 1840, *p.* 538.

[This is one of the most interesting subjects which has engaged the anatomist lately, and we strongly recommend the careful perusal of Mr. Nasmyth's valuable papers in the different journals.]

139.—GENERAL FACTS REGARDING THE STRUCTURE OF THE TEETH.

By Professor Owen, F.R.S., &c.

The most important *general facts* discovered and substantiated by Professor Owen regarding the structure of the teeth, we believe to be the two following:

1. That teeth grow, like bone, by intussusception; that they are not extra-vascular structures, as Hunter, followed by Cuvier and many others, maintained; but that they are originally formed by the deposition of calcareous matter in cellular tissue, by a process bearing a general analogy to that of ossification.

2. That the microscopic examination of the teeth reveals correspondences and differences in their structure in the various groups of vertebrated animals, so constant and easily recognized that from the smallest fragment of a fossil as well as recent tooth, not only the class and order but even the family, and in some instances the nearest allied genus of the animal to which the tooth belonged, may be predicated with certainty.

The first of these discoveries was made by observation of the development of the teeth in the fœtal shark, in 1838. Mr. Owen remarks that in these, as in many other fishes, we have an exemplification on a large scale of the earliest or papillary stage of dental development in the higher classes of animals. It is not succeeded by either a follicular or an eruptive stage; since the formative papillæ are never inclosed, and consequently never break forth. The unossified pulps, examined with a high power, consist of semi-opaque granules or cells, suspended in a clear *matrix;* and the whole is inclosed in a tough transparent membrane which forms the outer surface of the pulp. The formation of the tooth commences by the deposition of earthy particles in the latter, which thus becomes the enamel-like polished coating of the tooth; and the process of calcification gradually extends from without inwards, the pulpy substance being actually converted into solid *dentine;* and not giving place to excreted layers of it, as commonly supposed.

British and Foreign Medical Review, July 1840, *p.* 209

140.—ON THE STRUCTURE OF THE MUCOUS MEMBRANE OF THE STOMACH.

By R. B. Todd, M.D., F.R.S., Professor of Physiology, King's College, London.

When a portion of the mucous membrane of a true digestive stomach is examined, stretched upon a plane surface under water, we observe it to exhibit a multitude of small cells more or less circular in form. These cells are present over the whole surface, where a thick epithelium visible to the naked eye does not exist, and their presence may be considered to be characteristic of the true digestive surface, as contra-distinguished from that of a simple macerating cavity. When the mucus has been well cleared away, we can see to the floor of each cell, which exhibits from three to five perforations, often rendered distinct by being filled with the white mucous secretion. The cells are separated from each other by partition-like elevations of the membrane, which vary in depth, and sometimes even form pointed processes, mistaken by some anatomists for villi, which they really do resemble when examined on an oblique section. The diameter of the cells is 1-180th inch to 1-250th inch: it varies, however, in the different regions, and is always largest near the pylorus.

When thin sections of the mucous membrane, cut vertically to the surface, are placed under the microscope, they are seen to be composed of a number of tubuli closely applied to each other side by side, their blind extremities being in contact with the submucous tissue, and their free extremities opening into the bottom of the cells.

British and Foreign Medical Review, April 1840, *p.* 565.

END OF VOL. I.

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